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PACKAGING

THE CAHNERS MAGAZINE FOR DECISION-MAKERS/NOVEMBER 1990

PACK EXPO SHOW REPORT

Exclusive
Pocket Guide
To Exhibitors

Older Consumers:
Has Packaging
Ignored Them?

Two Lines Designed
For Quick Changes

Back-To-Basics
Cushioning
Fills A Need

Dry-Filling
Machinery Basics

NDC 0015-5687-01
BRISTOL LABORATORIES®
pleasant adult flavor
convenient dosage cup
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Expectorant
loosens chest congestion
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quiets coughs
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Expectorant/Cough Suppressant
Cough/Cold Liquid
for Adults 50 and Over
(118 ML)

PACKAGING

BREAKING NEWS

Machuga, but that's unlikely. In the meantime, he says, "We're not taking immediate action on susceptors, and that suggests we haven't found an acute problem." For a complete discussion of issues behind the susceptor study, see PACKAGING, October 1989.

Food group requests delay in label changes: The National Food Processors Association, Washington, D.C., has told the FDA that industry needs more time to implement changes in nutritional labeling of foods. NFPA officials say the 1990 Nutritional Labeling and Education Act allows the FDA to extend the effective date beyond its proposed deadline of mid-1992. The association is urging the FDA to give industry until May 8, 1993, to obtain needed data and manufacture new labels.

Plastics society releases year-end statistics: The Society of the Plastics Industry Inc., Washington, D.C., reports in its year-end estimates that domestic production of plastic resins totaled 61.9 billion pounds in 1990—a 5.7% increase from 1989. Sales of polyolefins as a group increased by 8.4% during 1990, says the group. HDPE, not fully recovered from capacity lost in '89, ended the year with sales up 3.2%. Overall, PVC sales grew by 9%.

Closure organization publishes guidebook: The Closure Manufacturers Association has published a new booklet titled *Closure Guides*, which comprises information on metal and plastic closures. Descriptions and functions of closures are included along with applications. Packaged in a three-ring binder, the guide costs $40 a copy. To order a copy, write the CMA at 1801 K St. N.W., Suite 1105L, Washington DC 20006.

Fragrance carton sports hologram: The Flexible Packaging Div. of Reynolds Metals Co., Richmond, Va., has introduced what is said to be the first holographic gift carton for the fragrance industry. Quintessence Inc., Chicago, has begun marketing a collection of fragrances in cartons carrying three-dimensional images on film. The holographic diamond pattern was created by American Bank Note Holographics Inc., Elmsford, N.Y.

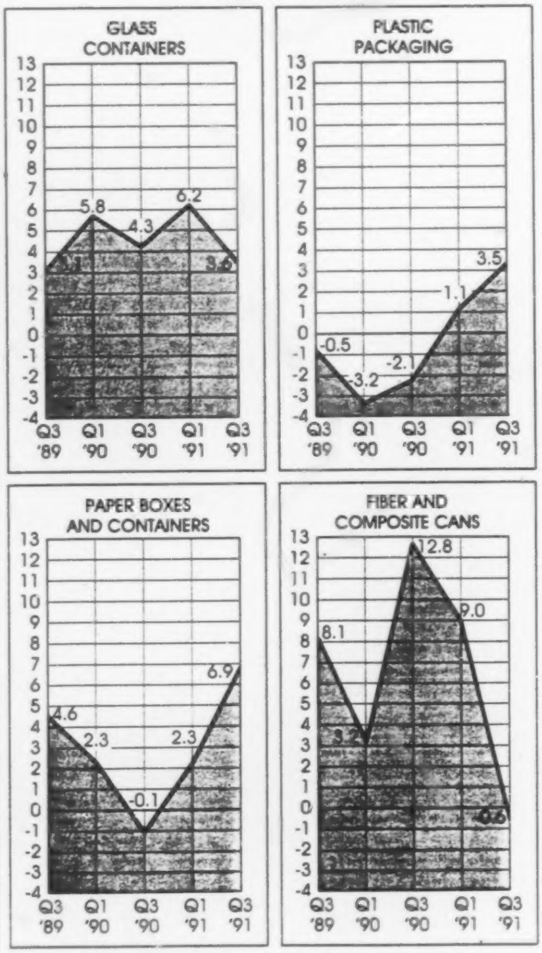
Closure maker enters Polish joint venture: White Cap Europe, the vacuum closure division of Continental Can Europe, has announced formation of a joint venture with Polish packaging company Opakomet, called Continental-Opakomet White Cap. The new company will manufacture and sell White Cap vacuum closures in Poland and elsewhere in Eastern Europe.

PRICES: TWO UP, TWO DOWN

Price trends for four key packaging materials are mixed as we enter a new year. Through mid-year, price increases should moderate for glass containers and composite cans—both of which have shown reasonably strong gains in recent months. Prices for most plastics and corrugated containers, on the other hand, are expected to begin rising toward summer. Still, plastic price rises have been moderate given the Mideast situation. The increases for corrugated are related to Cahners projections for an improving economy.

PRODUCER PRICE INDEXES

% Change Vs. Year Ago



Data Source: Bureau of Labor Statistics Forecast: Cahners Economics

PACKAGING

A CAHNERS PUBLICATION
VOLUME 35 NUMBER 13

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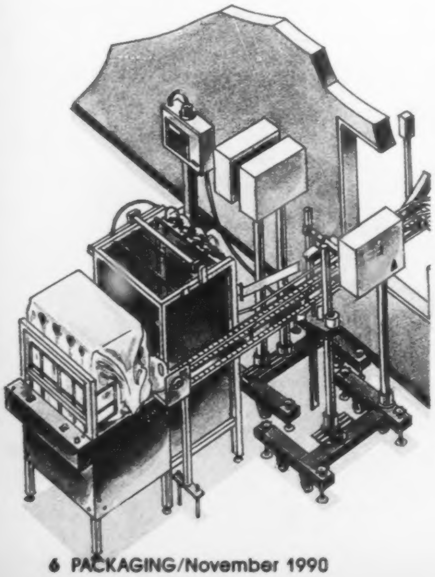

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Naldecon
Senior DX®
Expectorant/Cough Suppressant
Cough/Cold Liquid
for Adults 50 and Over
4 FL OZ (118 ML)

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NOVEMBER 12-16, 1990
PACK EXPO
McCORMICK PLACE
CHICAGO, ILLINOIS

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Updated label design helps sell reformulated Heath toffee bars.
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IMPROVED
BIGGER BAR
FLAVOR
original
HEATH

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PACKAGING

THE CAHNERS MAGAZINE FOR DECISION-MAKERS/DECEMBER 1990

EXCLUSIVE: PACKAGING'S 1991 FORECAST

What Recession? Packaging Will Grow Next Year

Trends and Forecasts For Key Industries

Line Equipped To Resist Corrosive Liquids

New Inks Boost Coder Performance

Pack Expo

Breaking News

NIVEA
VISAGE
FACIAL NOURISHING LOTION
NIVEA
Europe's No. 1 Moisturizer
4 FL OZ

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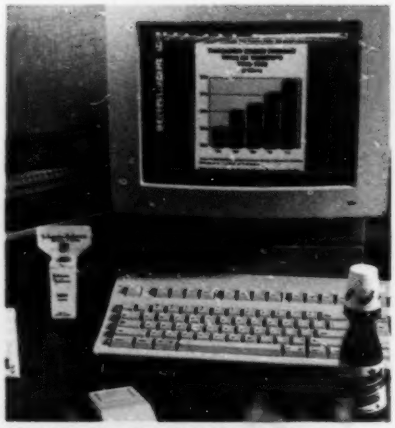
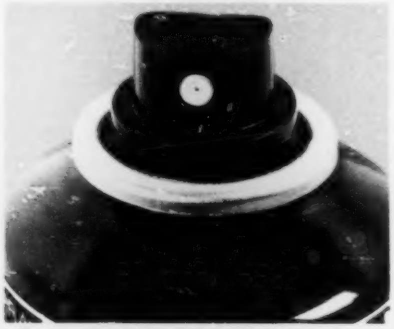


1991 Packaging Forecast: Moderate growth with consumption rising 4.4%. Page **22**



Advances in coding inks: bright-white pigments and thermal-sensitive formulations. Page **58**

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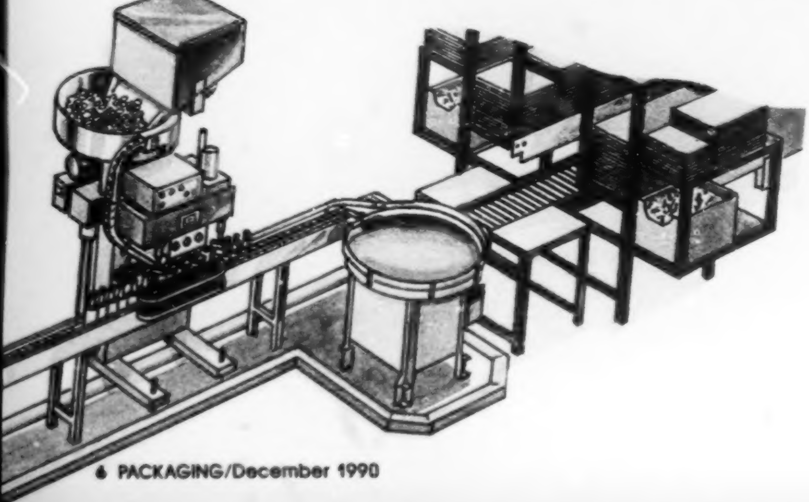
Coding inks give packagers technical edge 58

Eliminating solvents and achieving higher efficiency are new goals



Compact line arrangement needs special design to smooth out product flow. Page **54**

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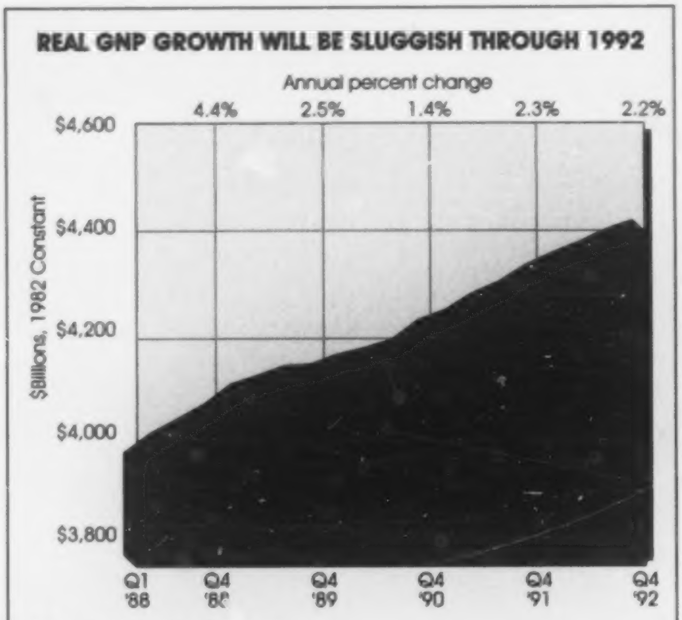
THE 1991 PACKAGING FORECAST

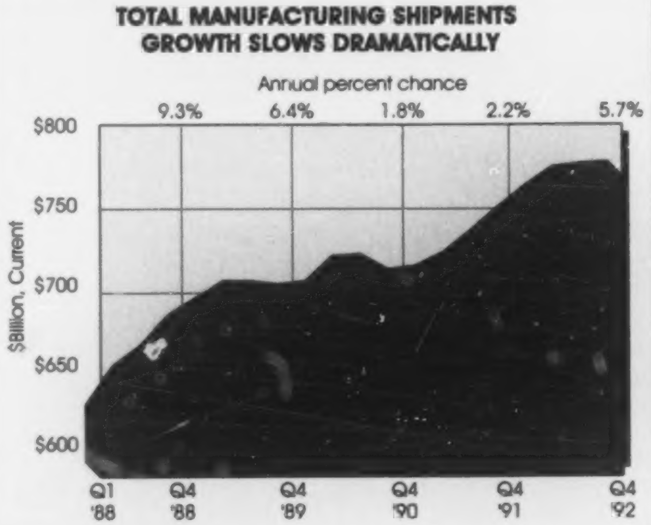
Economic questions and concerns abound, but packaging remains well-positioned for moderate growth



REAL GNP GROWTH WILL BE SLUGGISH THROUGH 1992

Data Source: U.S. Dept. of Commerce
Forecast: Cahners Economics

Growth should improve slightly next year, barring a full-scale Persian Gulf War.



TOTAL MANUFACTURING SHIPMENTS GROWTH SLOWS DRAMATICALLY

Data Source: U.S. Dept. of Commerce
Forecast: Cahners Economics

Shipments began slowing late last year and will remain sluggish until late '91.

These are uncertain times for the economy and for packaging.

Since mid-year, the growth in output of the American economy has slowed dramatically, consumer confidence and business spending have plummeted and inflation appears a real threat once again.

These economic realities are combining with current events—the threat of war in the Middle East, the rapid rise in the price of oil and the ongoing federal budget fiasco—and leaving most Americans in a state of shock.

As a result, many economists are predicting recession.

But does this mean 1991 will bring hard times for the economy and packaging? In a word, no.

The editors of PACKAGING magazine forecast the value of packaging consumption will grow 4.4% in 1991, up from a relatively soft 3% rise in 1990. This is not a prescription for disaster.

Cahners economists are not even convinced the general economy has entered a recession. According to Cahners Director of Economics Kermit Baker, "The general business press and TV news continue to headline recession. We feel the press has once again overreacted. A national recession is still not assured at this point."

Cahners forecasts of general economic activity reflect this position. Though Cahners has revised downward its prediction for real growth of gross national product to 1.4% for 1990, it continues to project a rebound to 2.3% in 1991.

This scenario is based not on news headlines, but on long-term economic cycles. As Baker says, "The economy was poised for a cyclical rebound before the Iraq crisis and these economic fundamentals are still in place. Inventories are low. Plenty of spare capacity exists. The Federal Reserve Board has the potential to continue easing credit, especially in light of weak housing starts and low consumer confidence."

If any factor worries Cahners economists, it is the pronounced drop in consumer confidence, which on an annual basis has fallen nearly 16% in 1990, according to the Conference Board's widely followed index. Expectations can become self-fulfilling.

But Cahners believes such confidence levels have reached their low point and should begin to rise through 1991.

And in fact, most of the major indicators should follow this path through 1991 and into 1992. For example, manufacturers shipments are forecast to grow 2.2% next year and 5.7% in 1992.

On the pages that follow, PACKAGING details its annual forecasts for the growth of packaging consumption, and trends that lie behind the numbers.

The bottom line of the forecasts: For packagers, it is time to start planning for growth, not decline, in spite of headlines.

—The Editors

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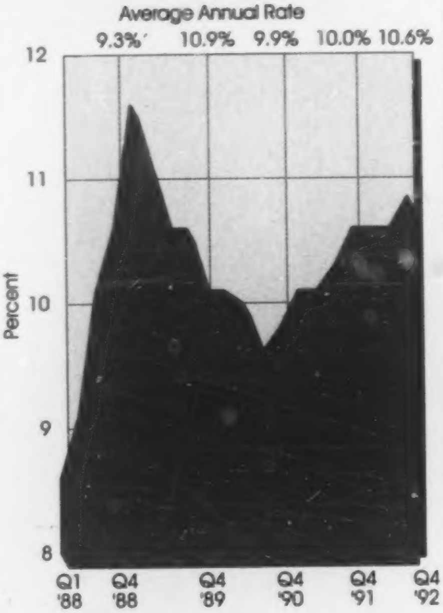
Consumer confidence has plummeted, but is forecast to bounce back in 1991

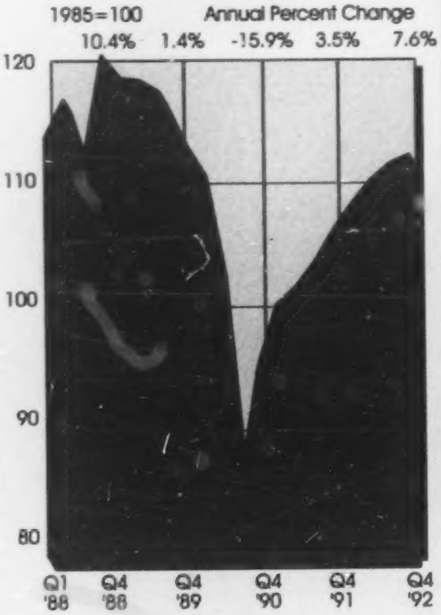
PRIME INTEREST RATE TO RISE SLOWLY



Data Source: Federal Reserve Board
Forecast: Cahners Economics

A sluggish economy is expected to temper oil-related inflationary pressures, keeping prime rate moderate.

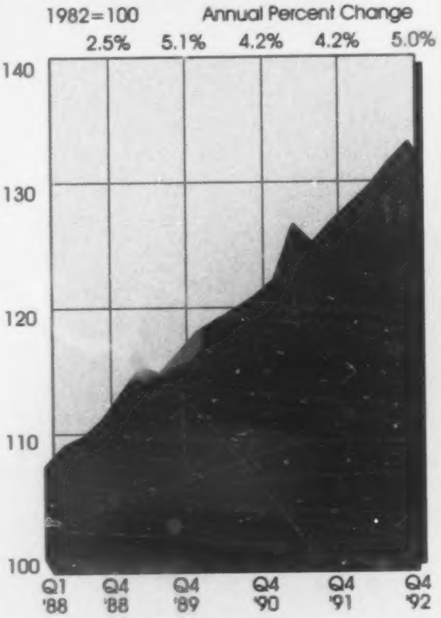
CONSUMER CONFIDENCE TAKES IT ON THE CHIN



Data Source: The Conference Board
Forecast: Cahners Economics

The Iraqi invasion frightened an already concerned consumer, but the mood is expected to improve.

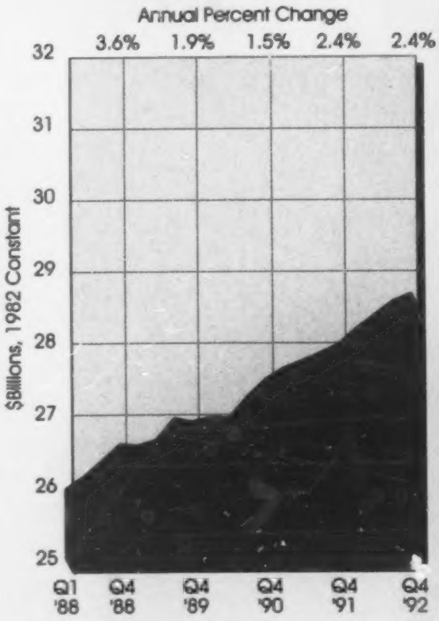
PRODUCER PRICE INDEX GAINS TO REMAIN MODERATE



Data Source: Bureau of Labor Statistics
Forecast: Cahners Economics

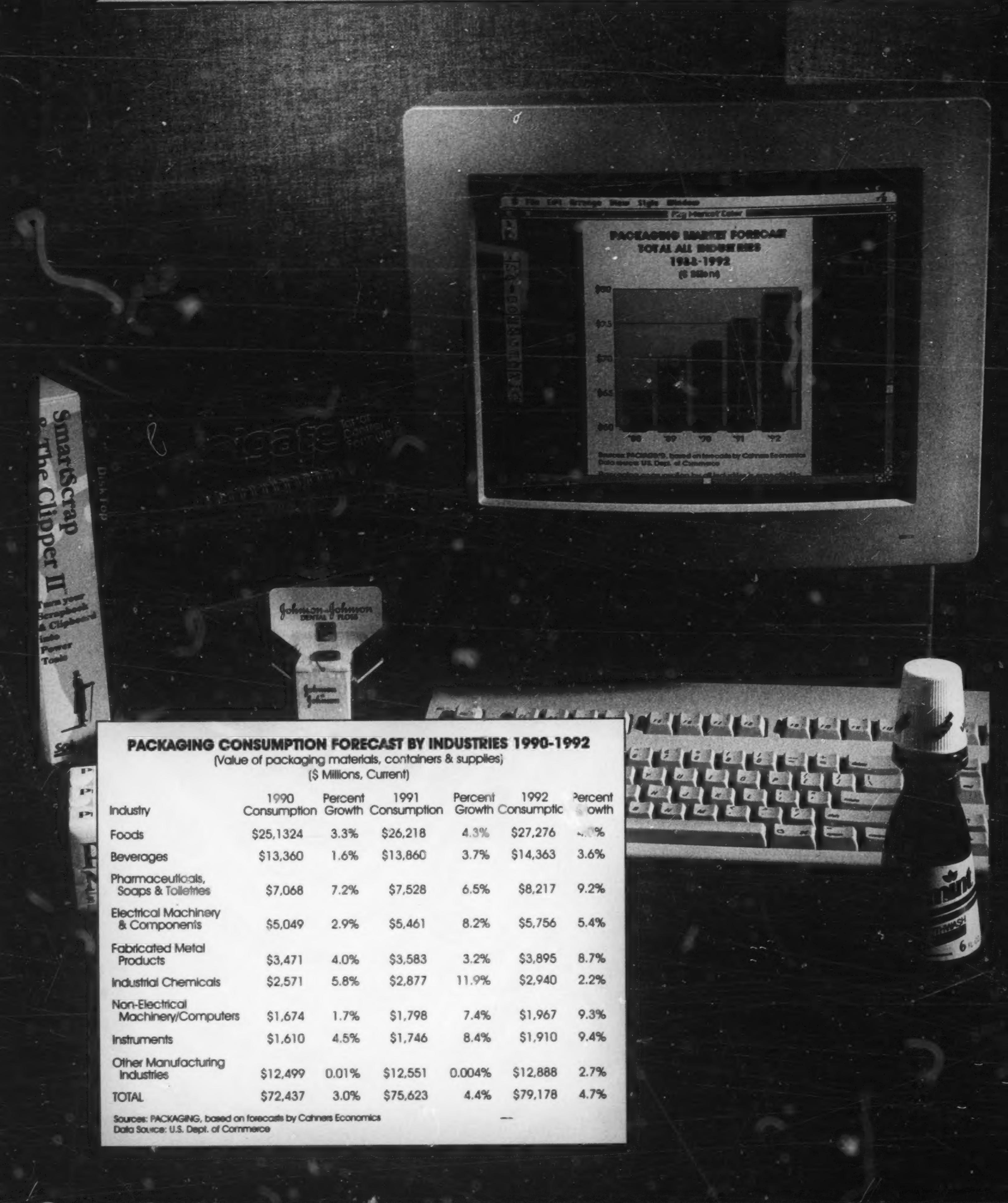
The dampening effect of a sluggish economy will hold industrial inflation at moderate levels.

PERSONAL CONSUMPTION GROWTH WILL REMAIN MEAGER



Data Source: U.S. Dept. of Commerce
Forecast: Cahners Economics

Growth in real personal consumption expenditures will rise slightly next year, but remain moderate.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PACKAGING MARKET FORECAST
TOTAL ALL INDUSTRIES
1988-1992
($ Billions)
$80
$75
$70
$65
$60
'88
'89
'90
'91
'92
Sources: PACKAGING, based on forecasts by Cahners Economics
Data source: U.S. Dept. of Commerce
SmartScrap & The Clipper II
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Disk Top
Johnson & Johnson DENTAL FLOSS
Johnson & Johnson
MOUTHWASH
6 FL OZ

PACKAGING CONSUMPTION FORECAST BY INDUSTRIES 1990-1992

(Value of packaging materials, containers & supplies)
($ Millions, Current)

Industry	1990 Consumption	Percent Growth	1991 Consumption	Percent Growth	1992 Consumptic	Percent owth
Foods	$25,1324	3.3%	$26,218	4.3%	$27,276	[illegible]
Beverages	$13,360	1.6%	$13,860	3.7%	$14,363	3.6%
Pharmaceuticals, Soaps & Toiletries	$7,068	7.2%	$7,528	6.5%	$8,217	9.2%
Electrical Machinery & Components	$5,049	2.9%	$5,461	8.2%	$5,756	5.4%
Fabricated Metal Products	$3,471	4.0%	$3,583	3.2%	$3,895	8.7%
Industrial Chemicals	$2,571	5.8%	$2,877	11.9%	$2,940	2.2%
Non-Electrical Machinery/Computers	$1,674	1.7%	$1,798	7.4%	$1,967	9.3%
Instruments	$1,610	4.5%	$1,746	8.4%	$1,910	9.4%
Other Manufacturing Industries	$12,499	0.01%	$12,551	0.004%	$12,888	2.7%
TOTAL	$72,437	3.0%	$75,623	4.4%	$79,178	4.7%

Sources: PACKAGING, based on forecasts by Cahners Economics
Data Source: U.S. Dept. of Commerce

Packaging **Growth** Should Edge Higher In 1991

Stability in key food and chemical industries and the start of an expansion to push consumption up 4.4%

Packagers should plan for a rebound in 1991, albeit a mild one.

Consumption of packaging is forecast to grow by 4.4% next year, to a total of $75.6 billion. This comes on the heels of a soft year in 1990, when the value of packaging consumption rose only 3%.

These are the conclusions reached by the editors of PACKAGING magazine in compiling their exclusive annual forecast for the packaging field.

In these uncertain economic times, packagers and their suppliers should note that their field is somewhat insulated from pronounced downturns in the economy. While the assumptions behind our forecast include moderate growth in real gross national product and the value of manufacturers shipments in 1991, even a recession would have only a moderate impact on packaging consumption trends.

A substantial amount of packaging is consumed by so-called noncyclical industries such as foods, beverages, pharmaceuticals, soaps, toiletries and medical instruments and supplies. While even these industries can experience slowing in the growth of shipments during economic contractions, they are affected far less than many other industries.

In fact, several of these industries will see healthy growth in shipments, and thus in packaging consumption, next year.

Pharmaceuticals, soaps and toiletries, led by a rebound in drug shipments, should see their packaging consumption grow by 6.5% in '91. Instruments, including medical and surgical devices, are forecast to consume a robust 8.4% more packaging next year than in 1990. And the foods industry will experience a 4.3% rise in consumption after a weak 3.3% gain in '90.

Several other industries should benefit as the general economy begins to pick up steam as the year progresses. Orders for many durable and industrial goods are expected to rise in the second half of the year, pushing up shipments and packaging consumption.

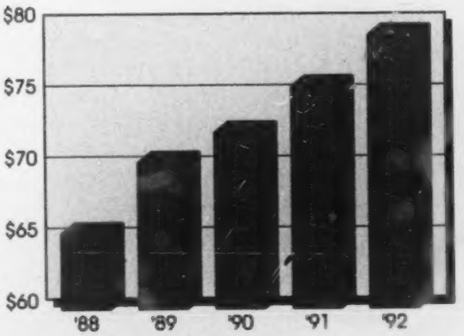
These exclusive estimates of the growth of packaging consumption by industry are based on a unique methodology developed by PACKAGING and Cahners Economics. Using data from the Department of Commerce on the value of manufacturers shipments, Cahners Economics forecasts growth in such shipments based on its econometric models. PACKAGING editors then apply different ratios of packaging costs for each industry, factoring in packaging trends in the industry, changing prices of materials and other variables.

Taken as a whole, packaging consumption is expected to show moderate and stable growth during the next two years. The trends affecting packaging in individual industries are analyzed in the pages that follow.

—Robin Ashton

PACKAGING MARKET FORECAST TOTAL ALL INDUSTRIES 1988-1992

($ Billions)

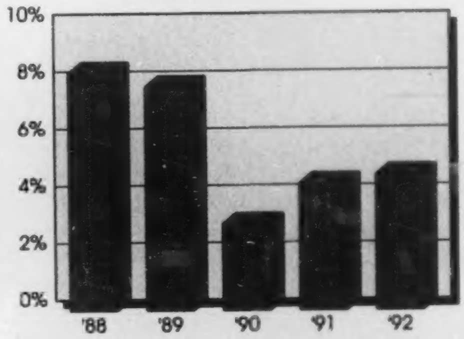


Source: PACKAGING, based on forecasts by Cahners Economics
Data Source: U.S. Dept. of Commerce

Packaging consumption by all industries is expected to reach nearly $80 billion by 1992.

PACKAGING CONSUMPTION GROWTH TRENDS 1988-1992

Annual Percent Change



Sources: PACKAGING, based on forecasts by Cahners Economics
Data Source: U.S. Dept. of Commerce

After strong growth in the late '80s, the growth of packaging consumption will be moderate through 1992.

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How would you rate this article? To reply, circle the appropriate number on the reader service card:

Outstanding	492
Above Average	493
Average	494
Below Average	495

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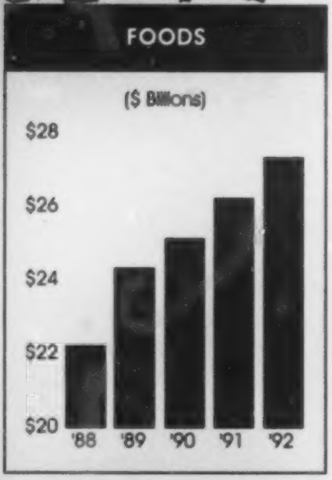


Year Consumption Growth

88	$22,241	10.3%
89	$24,322	9.4%
90	$25,134	3.3%
91	$26,218	4.3%
92	$27,276	4.0%

Recession Or No, People Will Eat

New! FRESH DIGIORNO ANGEL'S HAIR
DIGIORNO Official Pasta and Sauce of the BOSTON MARATHON.
New! FRESH DIGIORNO MARINARA SAUCE

Upscale tomato products are an example of value-added foods that are doing well.

Those in the business of packaging foods might have one advantage over packagers of other products in a recessionary period: People gotta eat.

And although they don't have to eat expensive food, they might choose to do so. A recession would probably prompt some consumers to switch from upscale to budget items, but many others would continue buying value-added foods.

At present, value-added food products are gaining popularity. Examples: frozen breakfasts; fresh, refrigerated pasta; gourmet tomato products, such as aseptic-packaged pasta sauces; and microwave entrees that appeal to a child's palate.

Same money, less time

Regina Hildwine, analyst for the National Food Processors Association, tells PACKAGING, "In a recession, people stop buying some luxury items and buy more economy items. But the people who are working have to work harder. They have the same amount of money but they have less time." Her conclusion: "I don't see a point when convenience foods will fall out of favor."

Her rationale bodes well for foods processors who use relatively complex packaging, since that's what is often needed to make meal preparation optimally simple.

But it also seems like good news for users of simple packaging, since that appeals to consumers who are more interested in saving pennies than seconds.

In order to dramatically alter the types of food packages the American consumer buys, a recession would have to be longer and deeper than most economists have predicted for the early '90s.

An extended recession could, intriguingly, give packaging in general a break. Right now, the environment and packaging's impact on it still occupy much of the public's attention. In tough economic times, factory closings probably would be a bigger worry than landfill closings.

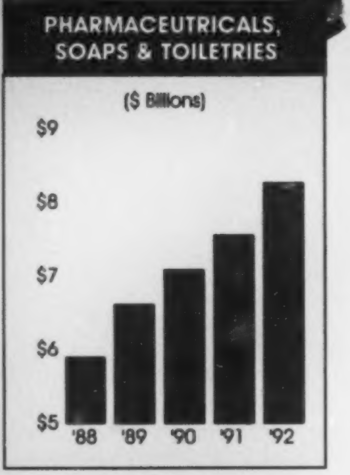
Respondents to PACKAGING's consumer surveys say environmental concerns affect their buying decisions. Yet we have seen no great shift in consumer packaging preferences—steel to aluminum, plastic to glass, or paper to plastic—as a result of any material's so-called environmental friendliness. Demand for convenience remains an overriding factor.

But government may be able to force changes in consumer behavior by banning packages that are most convenient and which therefore look overblown. That seems to be an especially serious threat in the foods marketplace.

Primary packaging for food products has suffered the harshest criticism of all since the latest round of ecological activism began. No legislator has attempted to ban shoe boxes or shampoo bottles, but some have at least suggested that various forms of foods packaging be outlawed.

Suppliers and end users of foods packaging are being pushed to simplify wherever possible. This challenge is one well worth facing . . . as a means of both holding prices down during this recession (if that's what it is) and forcing critics of packaging to look elsewhere for the cause of the trash mess.

—Greg Erickson



Year	Consumption	Growth
'88	$5,856	9.3%
'89	$6,593	12.6%
'90	$7,068	7.2%
'91	$7,528	6.5%
'92	$8,217	9.2%

FREE 20% MORE
DRIXORAL NON-DROWSY
NEW

Blister packages for pharmaceuticals have some attractive features: cost-effective protection for the packager, convenience and portability for the consumer.

Pharmaceuticals Face Challenge Of Demographics

A decade ago, pharmaceutical manufacturers paid little attention to the packaging of ethical or over-the-counter drugs. The emphasis was still on developing safe and effective medicines. Ease of access, convenience and shelf presence were secondary considerations.

Today, drug marketers must package their products for use by different demographic segments of the population.

Moms look for dosage cups atop kids' cough syrups. Seniors want to be able to easily read the label and open and reclose the pain-reliever container. Adults who must take regular dosages of medication want the package to help them remember. And each container must do an adequate job of keeping out children and tamperers.

Added to these concerns are FDA label and safety requirements, internal quality-control monitoring and marketing challenges involved in introducing OTC drugs which were previously available only by prescription. To top it off, pharmaceuticals packaging is being critiqued by environmentalists.

Boom for blisters?

While it certainly isn't the cure-all for every packaging ill, the blister pack in one form or another is seeing increased use, with research firms forecasting 6% to 8% growth in the 1990s.

Originally developed to hold individual pills, tablets or capsules, the blister design has more recently been modified to hold liquid dosages. And at least one company is packaging a dose of several different tablets in a single blister.

Blisters offer drug packagers product stability and economy for lots of under 50. Consumers like the product visibility, tamper-evidence and convenience of transport.

However, some older consumers complain that blister packs are hard to open. Since the graying of America is a reality for the next decade, that issue will attract increased attention.

New materials and constructions may help solve such access problems, as well as saving packagers money. Polypropylene and PETG will likely compete with the foil and PVC now used.

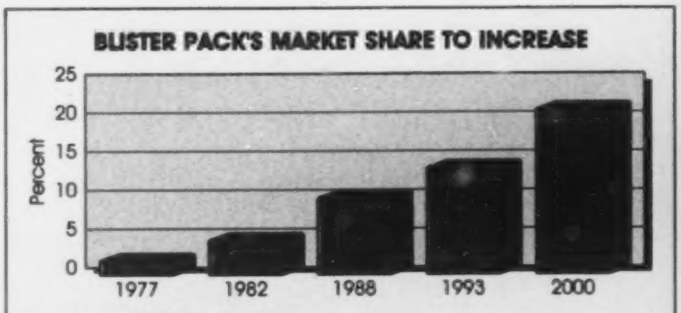
Bottles for OTC liquids seem to be in the midst of a modest shift back to glass from plastic. Some interesting new container shapes make the bottles easier for seniors to hold.

Closures could be on the verge of a design revolution as packagers take the needs of adults and seniors into account when designing child-proof caps.

As drug packagers look to the future, they must keep in mind the dichotomy between consumers' 1980s desire for tamper protection and their 1990s scrutiny of all supermarket products for signs of overpackaging.

For instance, can outer cartons for bottles and tubes be dispensed with? Can blisters use fewer layers and maintain their integrity? Drug marketers may find that developing the wonder drugs was only the start.

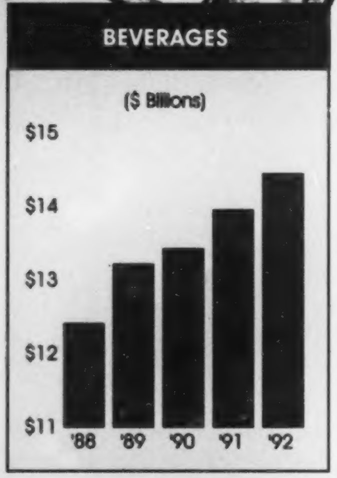
—Melissa Larson



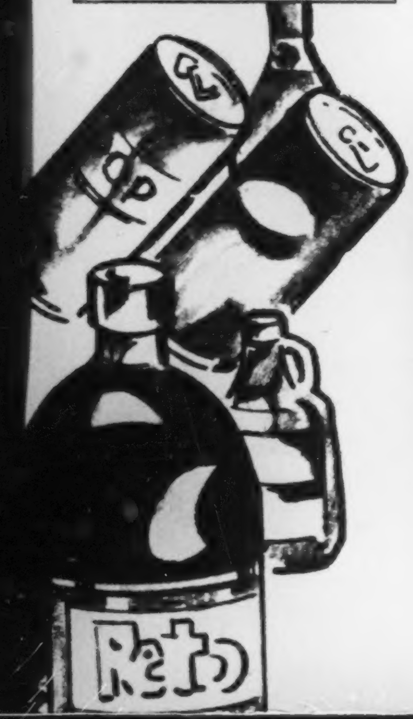
Source: The Freedonia Group

Blister packs will grab a greater share of the drug packager's dollar in the years to come, according to one research firm.

Container Materials Vie For Beverage Dominance



Year	Consumption	Growth
88	$12,428	6.5%
89	$13,156	5.9%
90	$13,360	1.6%
91	$13,860	3.7%
92	$14,363	3.6%



The beverage industry finds itself dealing in a fiercely competitive marketplace. Things are tough all over.

You could be a vintner or a brewer and have to deal with rapidly declining sales or, at best, minimal growth. You could be a soft-drink or fruit-juice bottler who, despite 2.5% growth last year, still has to survive in a market dominated by three companies. Or you could be a bottled-water packager and have to find a way to make your product stand out in a field experiencing more than 15% annual growth.

Despite the downturn for some beverage categories, several trends point to healthier growth in packaging consumption. New products will continue to be a driving force, especially those that meet consumers' current thirst for lighter, healthier drinks.

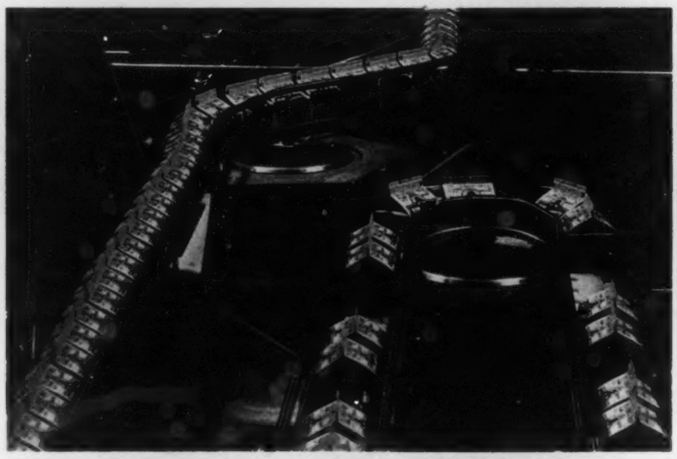
In the first nine months of this year, industry observers tallied 871 beverage introductions. That's nearly 150 more than in the same period last year. Chief among these new contenders for market share are flavored sparkling waters, blended juice drinks and sports-type isotonic beverages. The hottest new drink, ironically, is iced coffee.

In its efforts to wrest maximum sales from the marketplace, beverage packagers are continuing to employ new multipacking options and different sizes for different markets. Nearly every container volume or quantity can be justified, especially in the low-growth beer and soft-drink fields.

Flashy packages sell

These two markets also make liberal use of flashy (and often costly) packaging design to attract attention. On the beer side, in-package games by Heileman and others were a major part of summer promotions. Pepsi's Cool Cans and Coke's ill-fated MagiCan promotions only served to strengthen their already overwhelming dominance in soft drinks.

Where the beverage market is heading in terms of container materials may be anyone's guess. Packagers seem to be hopping from one material to another—glass to plastic, plastic to glass, composite can to aluminum, and even aluminum to steel—all in an effort to gain any sales advantage.



Single-serving gable-top cartons run at 100 per minute through a modern packaging line at a Wisconsin dairy.

Iced coffees are among the hottest new beverages hitting retailer's shelves.

After a nearly 100% growth in PET bottles since 1985 to 10 billion units, shipments are expected to rise only 2.5% this year, based on U.S. Commerce Dept. figures. On the other hand, shipments of aluminum cans for soft drinks should grow by almost 10% to 45.7 billion.

New developments, as well as successful marketing, by steel-can manufacturers have finally given the material some prominence in the beverage-container mix. Nearly 3 billion steel cans were shipped last year, and an upward trend may continue as solid-waste legislation and deposit laws take effect.

After an iffy couple of years, glass beverage containers are staging a comeback as well. Nearly 23 billion units for beer and soft drinks will be shipped this year—up about 1 billion from 1989. Glass containers for liquor and wine will decline by 6% to 3.4 billion units as the market for alcoholic beverages continues to slow.

—*Mark Spaulding*

Manufacturers Concentrate Environmental Efforts

The makers of soaps, cleansers and other household chemicals face a barrage of environmental challenges on two fronts. Activists are demanding that not only should the packaging be reduced, recycled or recyclable, but the products themselves should be as environmentally benign as possible.

On the packaging side, at least, a lot has been done to answer those demands. Packagers are responding with a flurry of product introductions that highlight source reduction and recycled package components.

"Concentration" is the name of the game. Procter & Gamble led off the drive with its debut of a Downy Fabric Softener concentrate in a gable-top carton. The idea builds on the success of concentrated liquid laundry-care products in film pouches that have been successful in Europe since 1988.

Now, concentrated products—and the resulting source-reduction from smaller packages—have moved into the powdered category as well. Ultra laundry detergents under four P&G brand names are in Southern and Western test markets. The recycled-paperboard cartons are about half the size of a regular detergent package. The latest entry is Lever Bros.' Wisk Power Scoop. It also features a recycled-paperboard carton and comes with a coded, recyclable plastic scoop and carrying handle.

Source-reduction techniques for packaging household chemicals are also showing up as bulk sizes of powdered products and large bag-in-box containers for liquids. Dial Corp.'s Purex detergent in a 2-gallon size is one example. At the very least, companies are making sure a recycled-paperboard symbol is proudly displayed on the package.

Plastic containers with recycled content might grow in popularity with packagers and consumers alike. The tight market for post-consumer plastic should open up as more more curbside-collection systems begin to take in the used containers.

Tide
cheer
owny

Use of recycled plastics, mainly HDPE, for multiple-layer, laundry-product jugs will expand in 1991.

POWER SCOOP

Concentrated detergent comes in a smaller, recycled paperboard box.

One new development in this area is P&G's Spic and Span Liquid in a two-layer bottle using recycled HDPE as the inner layer. Close on its heels is Lever Bros. which has also aggressively begun a program of incorporating recycled content into its plastic containers.

In terms of container materials, HDPE will maintain its dominance for most household chemicals, growing at about 3% next year, according to The Freedonia Group. Multilayer and high-barrier containers will open up markets for hydrocarbon products such as harsh cleansers and volatile polishes. The clarity of PVC will be a strong selling point for this container material, with demand growing by 3.4%, according to Freedonia.

All environmental concerns aside, household chemical-makers will continue to emphasize more convenience and a stronger shelf presence. The no-label look of in-mold labeling, more dispensing closures, easy-to-use measuring caps, greater use of fluorescent colors and metallized-paperboard cartons should keep this particular supermarket aisle bright and inviting.

—Mark Spaulding

Cosmetics Consolidate, Move Upmarket

Moving upmarket by means of spruced-up packaging seems to be a growing trend in cosmetics.

Competition among pretty faces is fierce, as it is for packages of things that promise to make them even prettier. Nearly 20,000 cosmetics and personal-care products jostled one another for the consumer's attention last year, and they got it: Pamper-yourself potions generated an enviable $17.5 billion in sales.

But perhaps the shelves are too crowded. Industry observers tell PACKAGING that consolidation of product lines is a continuing trend.

That is to say, a cosmetics manufacturer that once marketed a bewildering variety of eyeshadow packages under a dozen different brand names either has reduced that number of choices significantly or is planning to do so.

The medium is the message

If any products are overpackaged, cosmetics may be. So far, no legislator has attempted to restrict this practice. However, says one cosmetics-industry observer, "Some people are beginning to ask, 'Is all this packaging really necessary?' "

Probably. There may be no greater adherence to the philosophy that the medium is the message and the package is the product than there is in the cosmetics business. After all, would any user of makeup consider paying forty bucks for an ounce of biege paste if it didn't come in a gorgeous glass vial?

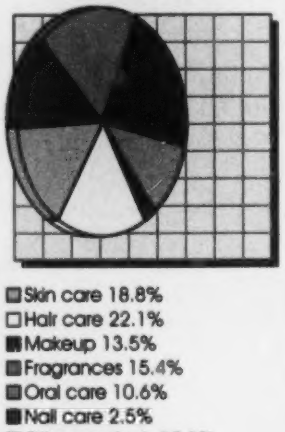
There's more to success in this rough market than that, of course. New-product formulation is a high-technology pursuit. Without distinctive packaging, though, those differences could be easily overlooked.

Skin deep

The value of skin-care product shipments has been growing at an annual rate of 12% since 1982; sun-care products, by more than 16%. That's expected to continue.

HAIR, SKIN CARE LEAD FIELD

Total manufacturer sales



Source: Kline & Co.

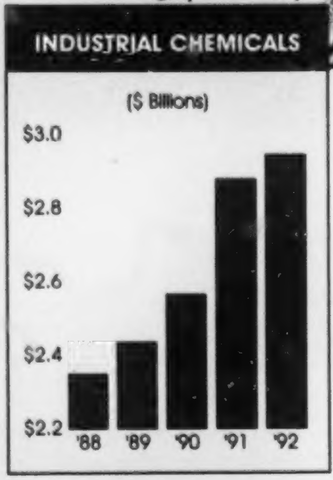
Care of the hair and skin leads cosmetics and toiletries in sales.

According to the U.S. Dept. of Commerce, constant-dollar shipments of cosmetics in general are expected to grow at a respectable annual rate of 3.4% through 1994.

Prestige brands are looking especially good. Companies that once marketed products as middle-priced have moved them upmarket through little more than package redesigns. One example is a utilitarian skin lotion made attractive enough to vie for consideration as a holiday gift by means of a fancy glass decanter.

Other package redesigns may soon make their debut in keeping with changes in U.S. demographics. The market for products designed to suit darker skin and "ethnic hair" is growing faster than the rest of the market. Two other niches offering significant growth potential are male and older consumers. How long will it be before we see Oil of Olay for Men? Oil of Olay Silver?

—Greg Erickson



Year Consumption Growth

'88	$2.351	7.4%
'89	$2.429	3.3%
'90	$2.571	5.8%
'91	$2.877	11.9%
'92	$2.940	2.2%

Industrial Packagers Pony Up For Compliance

Shippers of industrial chemicals face all the normal pressures to control packaging costs, plus an additional headache: meeting increasingly stringent regulations for overseas exports.

With revised U.N. and E.E.C. packaging regulations phasing in over the next two years, exporters of industrial chemicals, especially Group 1 hazardous substances, must decide whether to specify two types of packaging for the two markets or design all packaging to comply with the latest worldwide regulations.

The Department of Transportation's recent proposal to adopt the U.N. regulations has had the effect of making up many packagers' minds.

"We're testing all of our packaging, both domestic and for export, to comply with the U.N. standard," said a packaging manager at a major chemical exporter. "It's time-consuming and expensive, but we hope to be in total compliance by the end of 1991."

Users of so-called combination packaging for chemical export must have all such containers separately certified by an approved package-testing laboratory. This new regulation largely replaces the practice of self-certification. Some chemical packagers are splitting the testing costs with their packaging suppliers. Others are bearing the expense themselves.

New Pennsylvania and New Jersey state regulations regarding labeling data for hazardous chemicals also concern packagers. Other states are likely to follow suit in the recent "right to know" labeling trend. This type of regulation could affect hundreds of products and involves scrapping current label inventories for approved ones, for shipping to each state.

Unfortunately, the added cost of compliance is immediately apparent on the bottom line. Industrial chemical packagers we spoke with estimate their packaging costs will increase from 12% to 18% this year.

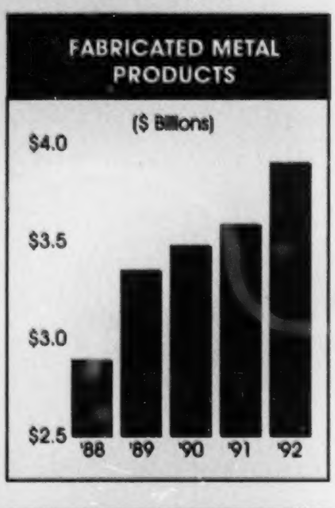
Elsewhere, container design emphasis is on performance and disposability wherever practical. Environmental concerns, here as everywhere, are leading industrial packagers to consider what will become of their drums and multiwall bags when the contents are used up. Makers of steel and fiber drums and reusable plastic outer drums are touting reusability.

Graphics are also playing a greater role, even for these so-called non-consumer packages. Four-color graphics on film-lined cartons and multiwall bags of chemicals express brand identity to the end user.

However, as U.S. government agencies help establish worldwide safety standards for these chemicals, the performance of the package in protecting the contents—as well as protecting the public from the contents—will remain paramount.

—Melissa Larson

Shippers of industrial chemicals must not only comply with new international packaging regulations, but consider what will become of the containers after use.



Year	Consumption	Growth
88	$2.880	6.7%
89	$3.337	15.9%
90	$3.471	4.0%
91	$3.583	3.2%
92	$3.895	8.7%

Hardware Retailers Like Looks Of Source Reduction

The environment is still an issue across all industries—including hardware. More and more, hardware retailers are requesting packaging that is sensitive to environmental perceptions. This includes packages that exemplify source reduction, as well as those that are recyclable or use recycled materials.

To some extent, retailers are ignoring the amount of shelf space needed for large packages as long as those packages use less material. For example, packaging a faucet in a skin pack may use less paperboard overall than a folding carton, but the skin pack would probably take up more display space.

For now, blisters and clamshells are holding their own, according to Steven Ruch, packaging engineer for 20th Century Companies, manufacturers and distributors of Chicago Specialty plumbing repair products. "Two or three years ago when environmental concerns were not as big of an issue, clamshells seemed to be the package of the future," Ruch says. "If someone asked me what I thought the package of the future was now, I wouldn't say. But the clamshell is still a good package."

However, he says, "With the perception of plastics in the retail marketplace, we may see fewer clamshells introduced. At 20th Century, we might try to do creative things with paperboard cartons and cards."

The clamshell's biggest selling point is product visibility. Customers want to see what they are going to buy because it helps give them the confidence to install it themselves.

Whether transparent packaging is used or not, the do-it-yourselfer wants step-by-step instructions right on the package, written simply and illustrated clearly.

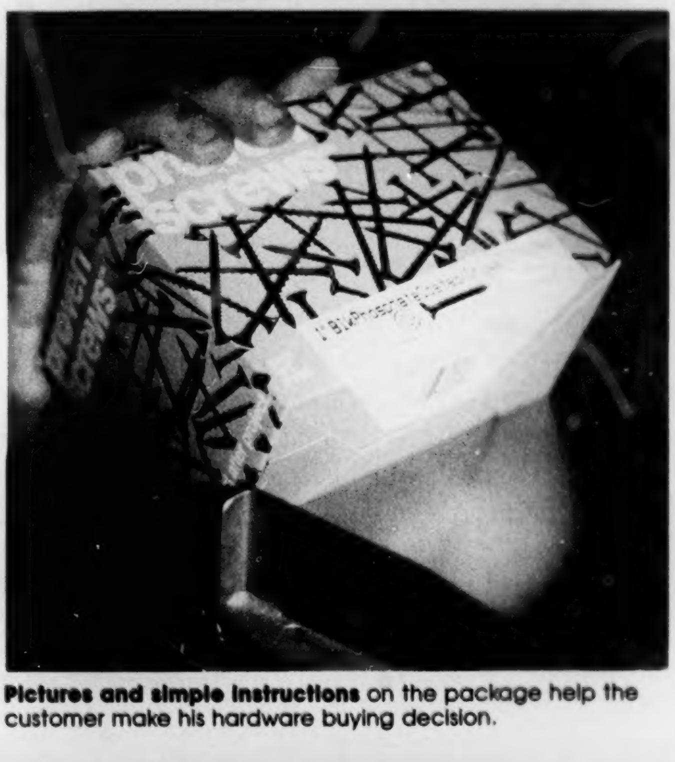
The more information on the package, the more easily the customer can self-select his purchase. Many times the package is the sole means available to the consumer of figuring out how the product works.

Consumers do turn to familiar products and packages. Ruch says, "Consumers don't have brand loyalty like they did 20 years ago. But they still recognize brand names and feel more comfortable with a package that they've seen or heard of before."

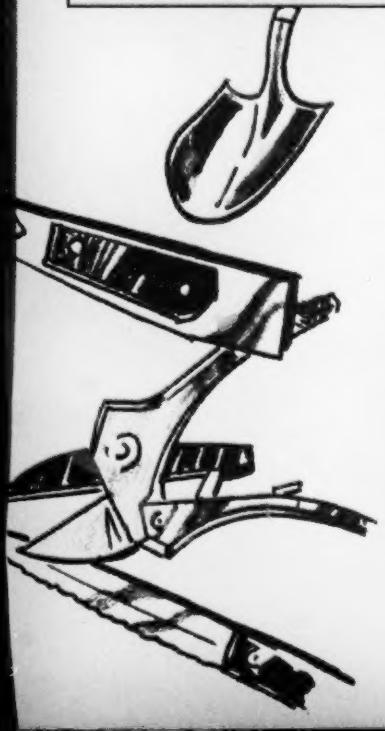
Most hardware items already incorporate UPC codes. But if they don't, they should. Hardware stores, home centers and mass-merchandisers have moved from SKU coding almost entirely to standard UPC codes.

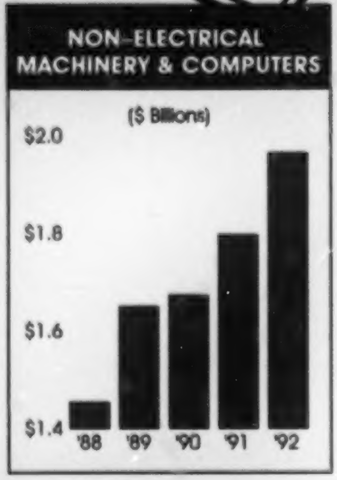
Bar codes have moved beyond individual items, too. Use of bar codes to identify shipping cartons is gaining ground. Whether the carton ships to a retailer's distribution center or directly to the store, carton-level bar codes facilitate receiving and locating products, as well as raising the speed and accuracy of inventory.

—Lisa McTigue Pierce



Pictures and simple instructions on the package help the customer make his hardware buying decision.





Year	Consumption	Growth
'88	$1,480	13.9%
'89	$1,646	11.2%
'90	$1,674	1.7%
'91	$1,799	7.4%
'92	$1,967	9.3%

Corrugated and cushioning are the two chief components of computer-hardware packaging. As computers shrink from mainframe to notebook size, they use less of these materials.

Laptops Flicker In Dim Computer Market

To get a feeling for what's happened in the computer business over the past four years or so, talk to a Boston-area realtor.

During the town's high-tech heyday in the middle '80s, housing demand was so great that a Port-A-John standing anywhere along Route 128 seemed a strong candidate for condominium conversion. Real-estate has since taken its lumps nationwide, and Boston has been, well, beaned.

One big reason: The quotation marks at the beginning and end of the "Massachusetts Miracle" were computer-generated.

Last summer, employment in the U.S. computer business hit its lowest monthly level since the middle of 1983. Further cutbacks are predicted.

Periodic waves

It used to be that breathtaking new technology came in periodic waves, regularly carrying existing equipment off into obsolescence and stimulating new rounds of replacement sales. Computer marketers used to drop hints of things to come in order to keep technofreaks drooling. But at this moment, no one seems to be touting "vaporware."

Overseas markets, which generally account for 40%-50% of domestic computer companies' sales, are relatively strong. However, U.S. sales success in other countries is being partially offset by their gains here: Imported systems are as troubling as a hacker's virus.

According to Cahners Economics' newsletter *Early Warning Forecast*, U.S. business bought $39.8 billion worth of computers and peripheral equipment in the second quarter of 1990—a drop of 1% from the year before.

Personal computers, the largest segment of the computer hardware market, have been hit especially hard. A survey conducted by the Cahners magazine *Datamation* and research firm Cowen & Co. shows that growth in shipments of PCs plummeted from a positive 21% in 1987 to a negative 5% one year later. For '89 and '90, shipment growth was positive but weak.

Although no one seems to be expecting a big uptick, Cahners Economics predicts a "better" 1991 and 1992, as does the U.S. Department of Commerce.

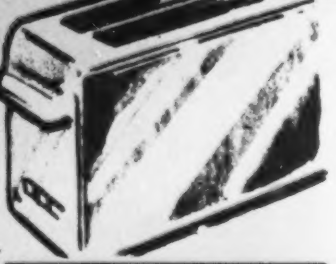
Some of the biggest players in the field are hoping to finally crack the home-PC market, which is tough but huge. Newly simplified machines and sophisticated selling techniques may prove successful, unless consumers hold out till Christmas 1991.

One little bright spot

If there is a bright spot on the computer horizon, it's the tiny screen of the business person's laptop. The dollar-value growth of laptops is projected at better than 60% over the next 10 months, but it will be some time before revenue from laptop sales can make up for slumps elsewhere. As an analyst for Cahners Economics puts it, "The computer industry is producing more units but smaller units. Output is going up while the dollar value of those shipments is dropping."

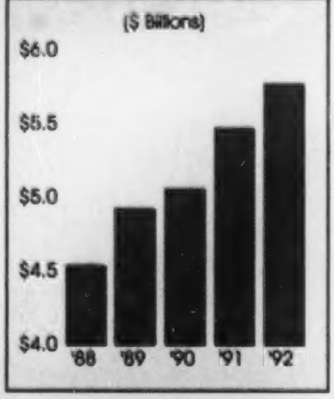
In terms of packaging materials, though, units shipped is probably a more meaningful measure of potential than dollar value. The primary components of computer packaging are corrugated and cushioning. A lot of little computers use more packaging than a single big one.

—Greg Erickson

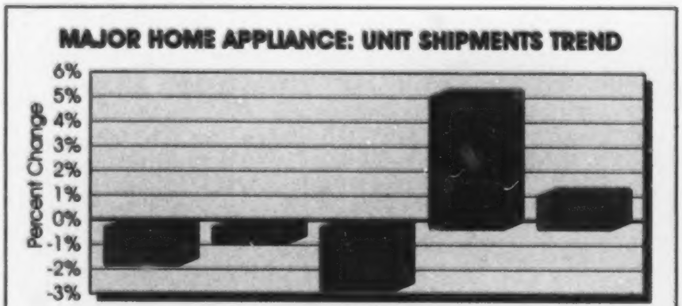


Appliance Packagers Get Smarter For Less

ELECTRICAL MACHINERY & ELECTRONIC COMPONENTS



Year	Consumption	Growth
88	$4,534	7.7%
89	$4,908	8.2%
90	$5,049	2.9%
91	$5,461	8.2%
92	$5,756	5.4%


MAJOR HOME APPLIANCE: UNIT SHIPMENTS TREND
6%
5%
4%
3%
2%
1%
0%
-1%
-2%
-3%
Percent Change

Source: Association of Home Appliance Manufacturers
Forecast: Cahners Economics

Better times are ahead for major appliances—but costs still need to come down.

To enhance and protect home appliances, large and small, from manufacture until you plug them in, packaging plays a number of important roles.

Large appliances, including home audio/video, rely on much the same type of protective packaging as is used for computers. Plastic foam cushioning and corrugated cases are the standard.

PACKAGING is forecasting modest growth in appliance shipments for 1991-92. However, that certainly won't relieve marketers of the need to slash costs wherever possible. The trick is to reduce the amount of packaging material and still protect the product.

More sophisticated testing methods are giving appliance marketers a better idea of the real distribution hazards their products will face.

Cleverly designed foam edge protectors and corner pieces have largely replaced the practice of enveloping the item in foam. For secondary protection, appliance packagers are increasingly swapping full cases for corrugated top and bottom trays over sleeves or surrounded by shrink wrap.

Small appliance salesman

Packagers of small appliances know that the package must function as an advertisement—not only protecting the item but boosting the brand's reputation. A family graphic look to paperboard cartons leads consumers from toasters to irons to can openers in the same line, getting the selling message across when there's no salesperson to be found.

While many appliance packagers experimented with preprinted linerboard for that extra graphic punch in the late 1980s, many have gone back to laminated labels on the sides of the container for cost reasons. Others stick with bleached corrugated featuring two-color graphics.

Circuit board safety

Electronic components, such as individual circuit boards, also fall under this manufacturing category. For these high-value items, antistatic foam and bubble wraps or treated shielding bags are popular.

The increased scrutiny of environmentalists has led some packagers of electronic components to experiment with alternatives to plastic foam or bubble wrap. The protective performance of many of these cellulose-based materials, such as shredded paper, for electronics is unproven.

However, reusable, antistatic-treated tote boxes of kraft or plastic are alternatives that are proving practical for repetitive shipments between user and vendor, or between different plant locations within the same organization.

—Melissa Larson

A family graphic look for packaging of small home appliances reinforces a brand image and stimulates sales in modern retail outlets, where the sales clerk is a vanishing breed.

Packaging Growth Fluctuates For 14 Other Industries

Packaging consumption by the remaining industries we track for our annual forecast will grow collectively by less than 1% next year to about $12.6 billion. Individual growth rates, however, vary widely—from a −2.4% on up to more than 11%. A closer look at each area is a must.

The primary materials industries including metals, paper products, rubber and plastics, petroleum, stone, ceramics and glass, will spend an additional $250 million on packaging in 1991. This is a healthy increase of 8.7%. Consumption by durable-goods packagers is another story. We expect about a $200 million decline by apparel, furniture, shoe, lumber and wood, automotive, sporting goods and toy makers.

Marketing more distinctive products to combat the perception of selling commodity goods is a driving force for paper-products makers. After all, one paper napkin tends to look like every other paper napkin. ScotTowels in a Box is one effort in this vein. The company took an institutional product and repackaged it in a facial-tissue-style box. Products such as Fantastik S'Wipes, Pledge Dusters and Lysol Bathroom Touch-Ups have added a whole new dimension to the packaging of what is basically a paper towel.

In the first nine months of this year, analysts tracked 117 new paper products for the retail market. That's up almost 50% over the same period in 1989, and many manufacturers are capitalizing on paper's perceived environmental acceptability.

Higher material costs for plastic overwraps and corrugated will drive packaging expenditures for tobacco products up 3.2% next year. Continued health concerns over smoking have not dampened the influx of new products. Twenty-four new tobacco items hit the market in the first nine months of 1990.

In the transportation sector, 1991 sales forecasts have been cut by auto-industry officials, reflecting a slowing economy and 30% higher gas prices since Iraq's invasion of Kuwait. Domestic auto sales may grow only 3% next year.

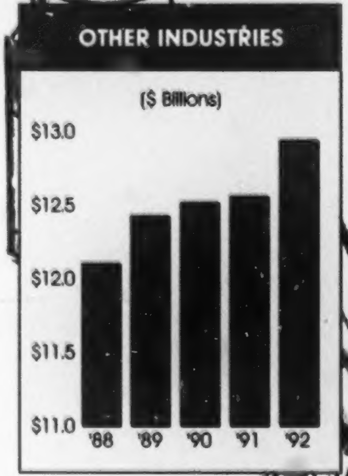
We see packaging growth of 2% for transportation to $753 million on the strength of the automotive aftermarket. In shakier economic times, many consumers will forego a flashy new set of wheels in favor of pumping new life into the ol' clunker. Packaging certainly becomes more complex and must work harder to sell the product in the retail parts aftermarket.

A decline in packaging growth for petroleum products to only 3.9% next year reflects the slowing transportation market. Several marketers have begun touting their use of recycled plastic for motor-oil containers.

Collectively, the durable-goods industries we track will not fare well in 1991. A drop in new-home construction to negatively impact lumber and wood shipments. Furniture sales have also been hurt. For this reason, manufacturers are trying new ways to reduce packaging costs while ensuring protection for their high-value merchandise.

On the bright side, sporting goods are experiencing robust growth as exercise and health concerns become more ingrained in the American lifestyle. Toy and game sales remain brisk on the strength of the so-called mini baby boom. To help sell these products in clerkless warehouse stores, intricate die-cuts in strategic places allow kids to try out a toy without removing it from the protective packaging.

—Mark Spaulding



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Outstanding	452
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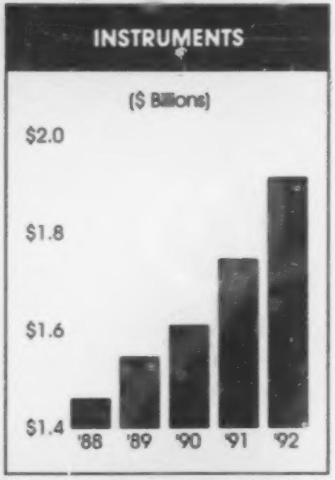
PACKAGING CONSUMPTION OTHER INDUSTRIES 1990-1992
(Value of packaging materials, containers & supplies)
($ Millions, Current)

Industry	1990 Consumption	Percent Growth	1991 Consumption	Percent Growth	1992 Consumption	Percent Growth
Paper Products	$932	2.0%	$1,038	11.4%	$1,102	6.1%
Rubber & Plastic Prods.	$916	-4.5%	$983	7.3%	$1,038	5.6%
Tobacco	$741	2.9%	$765	3.2%	$789	3.1%
Transportation	$738	-0.6%	$753	2.0%	$781	3.7%
Petroleum Products	$443	10.3%	$461	3.9%	$503	9.3%
Stone, Clay & Glass	$329	1.5%	$349	6.2%	$356	2.0%
Other Mfg. Industries	$8,401	0.8%	$8,202	-2.4%	$8,285	1.0%

Sources: PACKAGING, based on forecasts by Cahners Economics
Data Source: U.S. Dept. of Commerce

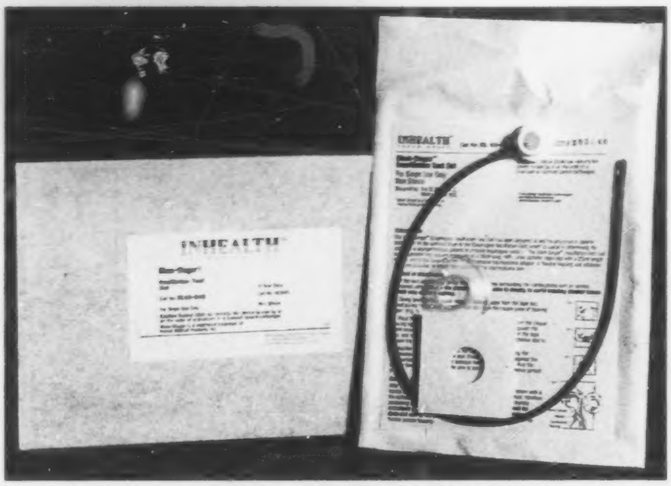


Year	Consumption	Growth
'88	$1,448	8.5%
'89	$1,540	6.4%
'90	$1,610	4.5%
'91	$1,746	8.4%
'92	$1,910	9.4%

Medical Market Wants Convenience, Uniformity

How a product is packaged is not usually a life-and-death decision. But the way a package performs in an operating room is of paramount importance.

Convenience is crucial, says Bruce Corini, manager of packaging development at Howmedica. One way packagers can boost convenience is to supply hospitals with products that are already sterilized. "There's a trend in the industry to presterilize as many products as possible," Corini says. "This creates less work for the hospital staff and gives them one less thing to worry about."



Pouches are still an inexpensive yet effective package for many medical products. Materials need to be versatile to withstand alternative sterilization methods.

Within this trend is another: Ethylene oxide is being phased out as a sterilization method because of environmental concerns. This presents both challenges and opportunities to medical packagers as they look for new materials that can withstand other sterilization methods, such as gamma or electron-beam radiation.

Both of the two leading packages for medical products—pouches and thermoformed trays—offer advantages to the customer. Thermoformed trays provide protection, organization (especially for products with multiple components) and an attractive appearance. Pouches generally require less space.

Hospitals and medical offices allocate a certain amount of room for storage and inventory based on the product's previous package. According to Corini, one of their biggest complaints is inconsistent sizing. The same part may not be in the same size package from shipment to shipment.

Sealable/peelable lidding is an area of flux as packagers continue to look for alternative materials. Corini cautions, "Look for alternatives, ask suppliers and research new materials—but go through all your own testing to guarantee that the material performs as needed."

With more packagers entering the medical field, brand differentiation has become more difficult. Intense competitive pressure is another reason packagers are seeking alternative materials as cost cuts reach the packaging department.

What about the environment? The recyclability of polyester thermoformed trays, for example, is not much of an issue. Used packages from an operating room are considered medical waste and must be disposed of in that manner. But in other instances, recyclability can only help and not hurt.

—*Lisa McTigue Pierce*

Thermoformed trays protect a device's sharp edges.

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PACKAGING

THE CAHNERS MAGAZINE FOR DECISION-MAKERS JANUARY 1991

PACKAGING DRUGS FOR HOSPITALS

Shorter Stays Drive Changes

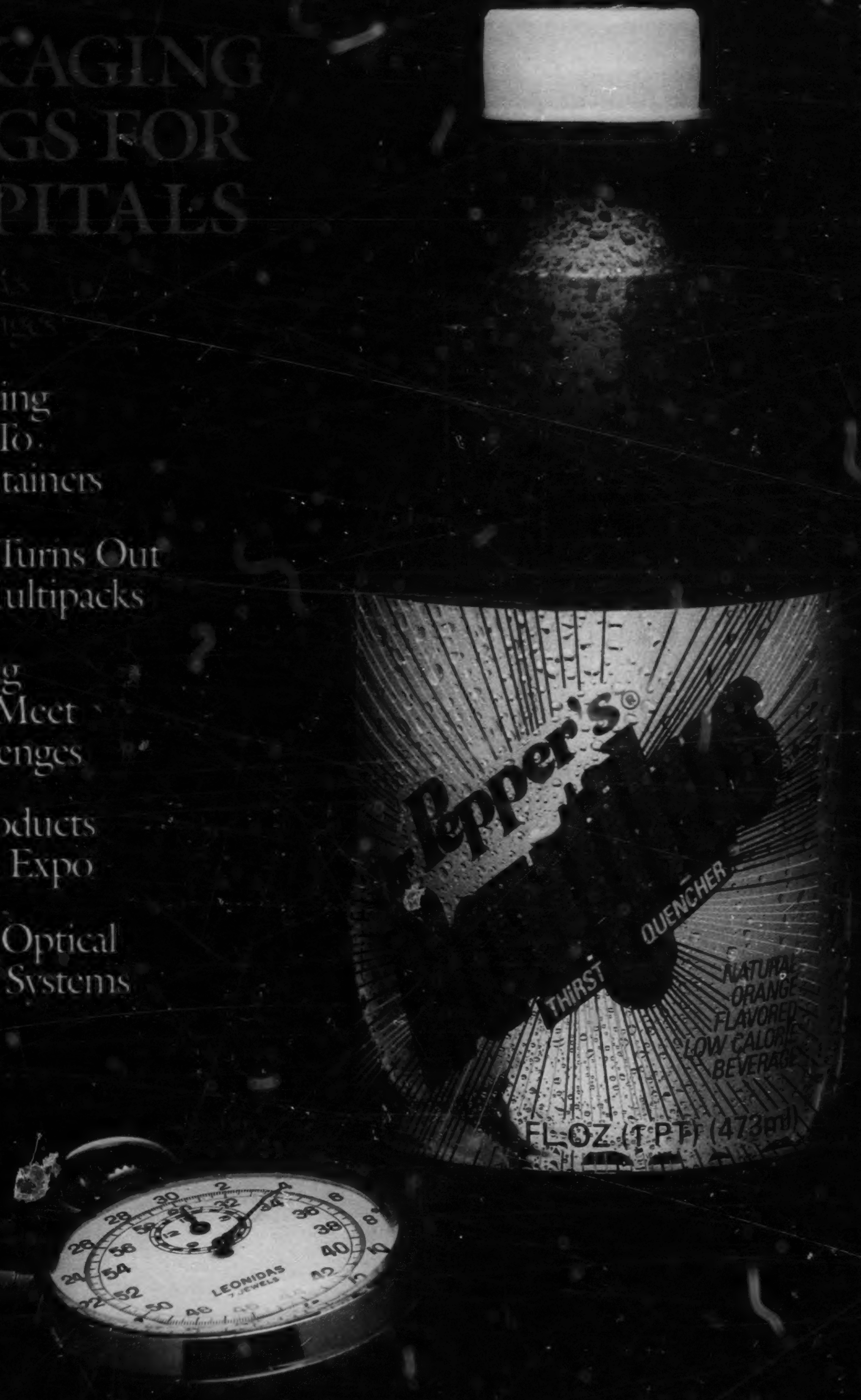
New Labeling Adds Pop To Drink Containers

New Line Turns Out Versatile Multipacks

Case-Sealing Adhesives Meet New Challenges

Newest Products From Pack Expo

Review Of Optical Inspection Systems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BREAKING NEWS

Machuga, but that's unlikely. In the meantime, he says, "We're not taking immediate action on susceptors, and that suggests we haven't found an acute problem." For a complete discussion of issues behind the susceptor study, see PACKAGING, October 1989.

Food group requests delay in label changes: The National Food Processors Association, Washington, D.C., has told the FDA that industry needs more time to implement changes in nutritional labeling of foods. NFPA officials say the 1990 Nutritional Labeling and Education Act allows the FDA to extend the effective date beyond its proposed deadline of mid-1992. The association is urging the FDA to give industry until May 8, 1993, to obtain needed data and manufacture new labels.

Plastics society releases year-end statistics: The Society of the Plastics Industry Inc., Washington, D.C., reports in its year-end estimates that domestic production of plastic resins totaled 61.9 billion pounds in 1990—a 5.7% increase from 1989. Sales of polyolefins as a group increased by 8.4% during 1990, says the group. HDPE, not fully recovered from capacity lost in '89, ended the year with sales up 3.2%. Overall, PVC sales grew by 9%.

Closure organization publishes guidebook: The Closure Manufacturers Association has published a new booklet titled *Closure Guides*, which comprises information on metal and plastic closures. Descriptions and functions of closures are included along with applications. Packaged in a three-ring binder, the guide costs $40 a copy. To order a copy, write the CMA at 1801 K St. N.W., Suite 1105L, Washington DC 20006.

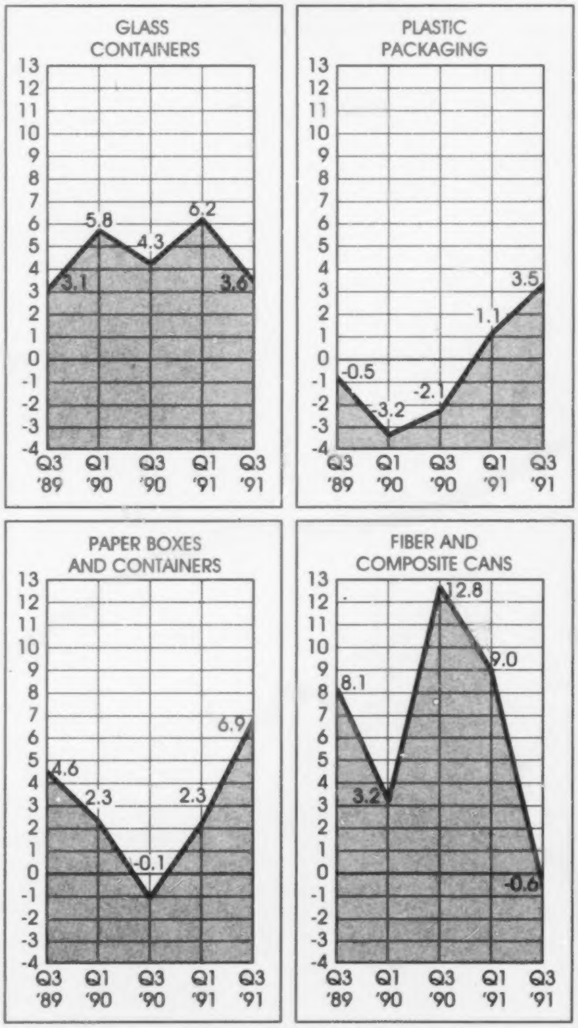
Fragrance carton sports hologram: The Flexible Packaging Div. of Reynolds Metals Co., Richmond, Va., has introduced what is said to be the first holographic gift carton for the fragrance industry. Quintessence Inc., Chicago, has begun marketing a collection of fragrances in cartons carrying three-dimensional images on film. The holographic diamond pattern was created by American Bank Note Holographics Inc., Elmsford, N.Y.

Closure maker enters Polish joint venture: White Cap Europe, the vacuum closure division of Continental Can Europe, has announced formation of a joint venture with Polish packaging company Opakomet, called Continental-Opakomet White Cap. The new company will manufacture and sell White Cap vacuum closures in Poland and elsewhere in Eastern Europe.

PRICES: TWO UP, TWO DOWN

Price trends for four key packaging materials are mixed as we enter a new year. Through mid-year, price increases should moderate for glass containers and composite cans—both of which have shown reasonably strong gains in recent months. Prices for most plastics and corrugated containers, on the other hand, are expected to begin rising toward summer. Still, plastic price rises have been moderate given the Mideast situation. The increases for corrugated are related to Cahners projections for an improving economy.

PRODUCER PRICE INDEXES
% Change Vs. Year Ago



Data Source: Bureau of Labor Statistics Forecast: Cahners Economics

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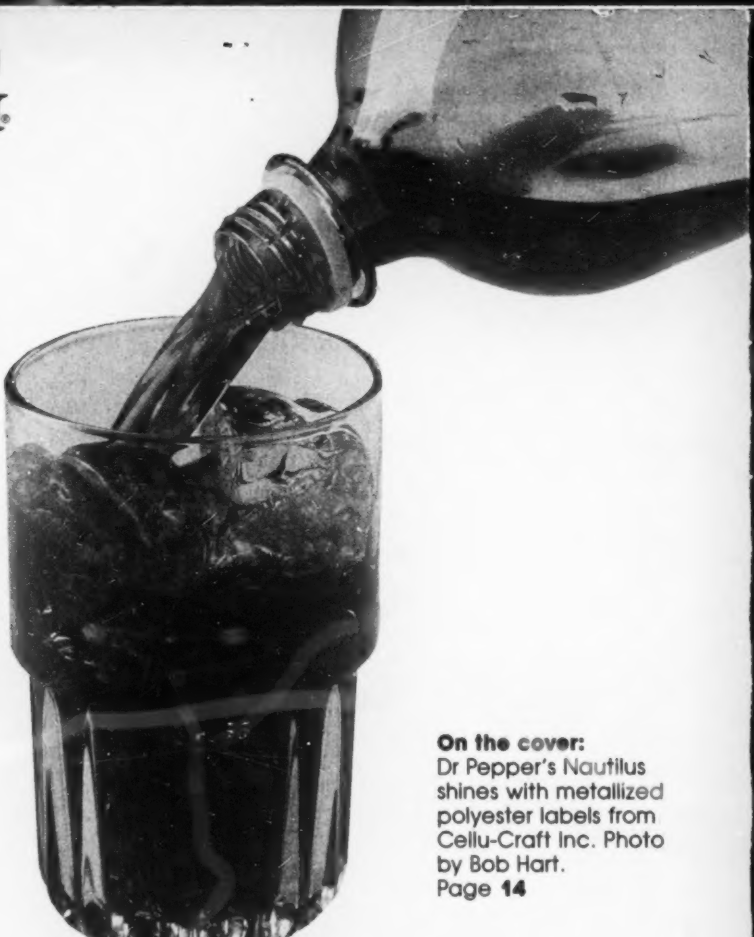
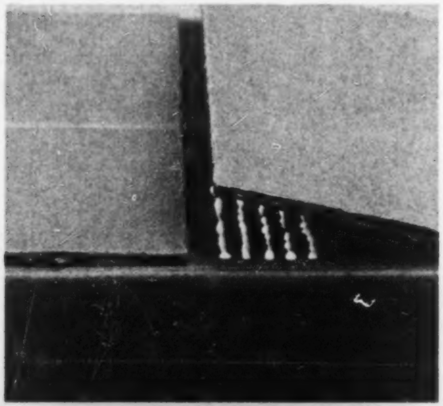


On the cover: Dr Pepper's Nautilus shines with metallized polyester labels from Cellu-Craft Inc. Photo by Bob Hart. Page **14**

Pharmaceutical blisters: Unit-dose packaging helps hospitals avoid drug mixups. Page **30**



Advances in adhesives combine hot-melt and cold-glue to add strength. Page **41**

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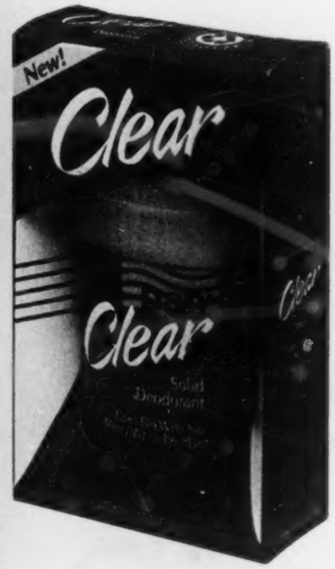

PET container and transparent polyester label let Ban's new clear-gel deodorant show through. Page **20**

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BREAKING NEWS

to a child who would try to reopen it. According to the Closure Manufacturers Association, Washington, D.C., some of the proposed revisions could "drastically change the types of packages permitted in the marketplace and could have an adverse and damaging impact on child safety."

Glass coating system goes commercial: Eastapac Co., Kingsport, Tenn., has announced commercialization of a chemical plasma deposition system for the application of a transparent silicon dioxide coating to rigid plastic containers. The system allows a coating less than 2,000 angstroms thick to be deposited on bottles, cans, trays, jars and lids made of PET and other plastics at speeds from 500 to 1,000 containers per hour. According to the company, a 50-50 joint venture between Airco Coating Technology and Eastman Chemical Co., the process greatly reduces transmission of oxygen and water vapor.

Paper giants sign sale agreement: Georgia-Pacific Corp. and International Paper Co. have announced that the two companies have signed an agreement for the sale of GP's interest in its French operations to IP for approximately 525 million French francs. Included in the sale are GP's interest in facilities manufacturing linerboard and corrugated medium and two packaging plants.

Cahners publishes 1991 Outlook: The economy will grow faster in the second half of this year than in the early months of 1991. That's the word from Cahners Economics, the economic research and forecasting arm of Cahners Publishing Co. The 57-page *Cahners 1991 Economic Outlook* offers a comprehensive analysis and economic projection for more than 40 manufacturing, construction and service sectors. Included are forecasts for the macro economy as well as demographic and regional trends. The book normally sells for $75, but readers of PACKAGING may obtain a copy for only $11 to cover shipping and handling. Contact Wendy Chambers by fax at (617) 630-2100 or by phone at (617) 630-2124.

U.S. companies take 16 Worldstars: The World Packaging Organisation has announced results of the World Packaging Competition '90. U.S. winners of the group's Worldstar awards are Paul T. Freund Co., Bradford Co., Revlon Professional Products, S.C. Johnson Wax, IBM (three awards), Amway, Packaging Corp. of America, Procter & Gamble, American Packaging Corp., American National Can, Osteonics Corp., Bagcraft Corp. of America (two awards) and Ivy Hill Packaging.

PRICES REMAIN FLAT

The current economic slowdown (call it what you will) is having one pleasant effect: Prices of most key packaging materials are stable. The four materials charted this month—steel and aluminum cans, paperboard and fiber drums—show first quarter price moves ranging from −1.5% for paperboard to +2.5% for aluminum cans. Price hikes for cans are expected to remain moderate during the next year, as soft demand for non-packaging uses depresses costs of basic metal. But expect prices of paper-based materials to rise as the economy picks up mid-year.

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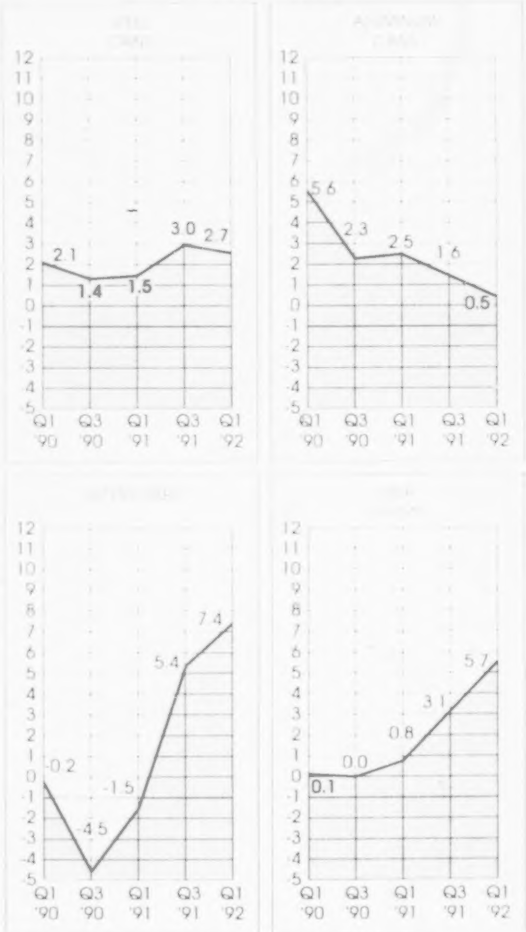
% Change Vs. Year Ago



Data Source: Bureau of Labor Statistics Forecast: Cahners Economics

PACKAGING

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Showtime in Chicago: IEFP '91 will parade many new packaging machinery and material developments. Page **43**

On the cover: Rice-A-Roni Lunch For One comes in new one-piece paperboard boxes from Westvaco Corp. Photo by Bob Hart. Page **32**

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Root Feeder
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ENVIRONMENTAL NEWS

Americans Know Recycling, Gallup Poll Suggests

American consumers are becoming increasingly sophisticated about producer claims of recyclability, according to a nationwide Gallup Poll conducted for the glass packaging industry.

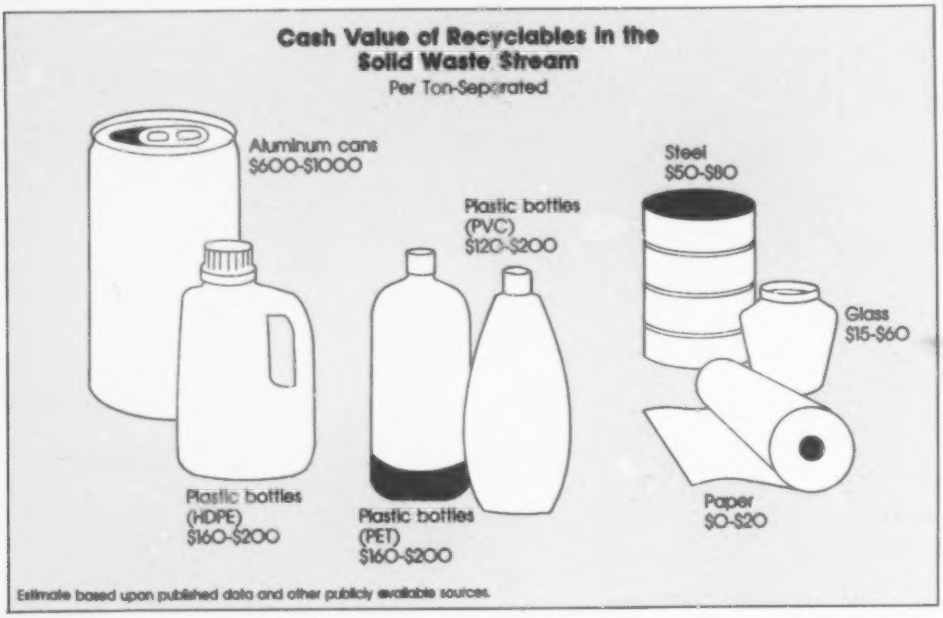
Better than two-thirds of those polled (67%) believe recycling is a closed-loop process in which a recyclable product is made into an identical product again and again.

"Consumers' better understanding of what is and is not recyclable will make it harder for manufacturers to use misleading recycling claims in the future," says Lewis D. Andrews Jr., president of the Glass Packaging Institute, which commissioned the Gallup Poll.

In other findings, more than 50% of those polled by Gallup favor curbside recycling over returning materials to recycling centers. This is twice the percentage of people who ranked curbside recycling as their first choice just two years ago.

Also, 80% of respondents say they're willing to switch to recyclable packaging if given the choice, the poll shows. This is an increase of 48% since 1988.

To obtain a copy of the findings, circle No. **430**.



Estimate based upon published data and other publicly available sources.

Foam Molder, Retailers Try Cushion Collection

Recycling of post-consumer expanded polystyrene foam could become a reality when Tuscarora Plastics Inc. teams up with such appliance retailers as Silo, Kmart and Sears to collect used EPS cushioning for recycling.

EPS is commonly used as protective packaging for such consumer products as TVs, home appliances and computers. Tuscarora Plastics is the largest producer of custom-molded foam plastics in the U.S.

The program, modeled after European efforts to collect and recycle shape-molded EPS, is being tested in three communities where Tuscarora maintains operations: Beaver Valley, Penn., Saginaw, Mich., and Conyers, Ga.

Customers of participating retail stores will be encouraged, via posters and fliers supplied by the molder, to return the EPS from their purchases to the retailer's site, where it will be collected in large plastic bags, also provided. From there, Tuscarora will collect the material on a regular basis and ship it to the company's plants, where it will be recycled.

A company spokesman says Tuscarora plans to be collecting EPS from as many as 1,000 retail stores by the end of 1991. Stores are already being identified for participation in the vicinity of Tuscarora's 18 plant communities throughout the country.

Partners To Market Pulping System

Chesapeake Corp. and Stake Technology Ltd. have formed a partnership to market a system using steam explosion technology for the recycling of waste papers such as old corrugated, newsprint and mixed office waste.

The patented system reportedly provides a flexible and cost-effective alternative for pulping and de-inking secondary fiber. When fully operational, the steam explosion system will be more compact and more energy-efficient than conventional de-inking facilities, according to the companies.

The paper industry has pledged to increase the amount of recovered waste paper from 25% today to 40% in 1995. The two companies say the new technology will make that goal more achievable by lowering the capital investment and reusing some waste paper that is not recoverable today.

The partnership will operate a developmental facility as well as market the new technology through licensing agreements with waste paper handlers such as municipal recycling centers, landfill operations and paper mills.

Stake Technology Ltd., based in Toronto, owns and licenses the steam explosion process, which converts solid waste into higher-value end products.

Program Strives For Food-Grade Recycled PET

Eastman Chemical Co. has announced plans to fund a multimillion-dollar research program that would allow use of recycled PET for food-grade packaging. The research will involve a new methanolysis process to convert post-consumer PET into its component raw materials.

Included is a continuous pilot plant of sufficient scale to allow for the design of an expected commercial methanolysis unit.

The methanolysis process involves a heat-induced chemical reaction to bring about a molecular breakdown of the plastic.

Harry Holliman, general manager of Eastman's polyester packaging business organization, said the Eastman methanolysis process is probably similar to one previously announced by Hoechst. He added that the company has conducted an "ongoing dialogue" with FDA concerning the process, and that it is performing extraction tests.

He said the company feels confident that FDA will have no objection to the process, once the agency has studied all data.

Holliman tells PACKAGING that Eastman expects the majority of its post-consumer PET to come from deposit-law states and those with established curbside-recycling programs.

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Microwave food marketers are trying to woo consumers back with a new generation of products.

SPECIAL REPORT

Taste And Value Drive Microwave Foods

Value-conscious shoppers aren't in the mood to experiment—zappable products and packages must deliver the goods

By Melissa Larson
Senior Editor

Measured in marketing time, microwave packagers may have only a few more precious minutes to convince the shopper that these food products can in fact deliver good taste and good value.

The era of microwave food experimentation is over for many consumers. They're sticking with tried-and-true brands, clipping coupons and even reacquainting themselves with the can opener and saucepan. Just owning a microwave is no guarantee a consumer will spend money on entrees, desserts and side dishes that don't measure up.

As luck would have it, many second-generation microwave products and packages now ready to hit the market feature a more carefully designed relationship between the food product and the packaging material.

Driven by materials technology in the 1980s, microwave packaging is now being simplified, streamlined and refined in an urgent attempt to garner repeat sales for frozen, refrigerated and shelf-stable foods.

All things to all people?

Zappable packages must maintain a delicate balance of taste and technology. They must be constructed to deliver heat in an effective manner for optimum results, while preventing off-tastes or odors in the heated food. They must protect the consumer from burns during handling, yet not appear overpackaged.

Early on, some food processors were slow to learn that changes in recipe formulation needed to be made in order to obtain satisfactory results from microwave heating.

Many later zappable entries were heavy on the packaging, with several heating

Organoleptic testing keeps packagers from costly mistakes

steps needed, but still didn't deliver the quality that shoppers felt was warranted by the price.

Several packaging factors have contributed to less-than-satisfactory food quality.

Most often talked about is the lack of browning and crisping in baked goods, meats and other dishes. Because of the way microwaves heat food and the structure of many microwave packages, there has been a soggy result in many finished food items.

Less obvious but still bothersome to many consumers are off-flavors and off-aromas, especially in cook-in microwave trays and cartons. These can be generated by interaction between the packaging materials and the food. The tray, bowl or cup, as well as any susceptor materials used within it, can produce odd flavors and smells.

Although the problem occurs more frequently in plastic packages, paperboard packages are not immune. Plastic coatings on the board which help it withstand moisture and heat can be troublesome. So can inks used to print the graphics, and adhesives used in susceptors.

Know your melt points

Melting points of various plastic coatings for paperboard trays must be taken into account when planning a dual-ovenable or microwave-only meal, according to several suppliers to this market.

Says one of them, "The polyethylene-coated board often used for microwave-only heating is all right for, for instance, plain vegetables, because the temperature during heating never goes above the melting point of PE—about 220-230° F. But when you add a cream or butter sauce, the temperature within the package can rise to 250°, and that's when you get odor and taste problems."

Dual-ovenable paperboard is more often coated with PET or polypropylene. These coatings have a melting point of up to 400°F, making them suitable for conventional oven heating as well.

Suppliers of plastic-coated paperboard packaging for today's microwave items also pay close attention to inks used for printing mouth-watering graphics. Specially formulated food-grade printing inks had to be developed which offered the same color quality as conventional printing inks but contained fewer volatiles that could interact unfavorably with the food.

Science of taste

Only recently has the interaction of polymer packaging material and food products been studied in the laboratory, using microanalysis to determine the movement of molecules between the packaging and the food itself.

But determining whether certain components of the polymer are migrating into the food or scalping flavors or other substances from the food is only part of the process. To assess the effect on flavor and aroma, organoleptic experts or taste panels are needed.

This type of research is expensive and time-consuming, but it appears to be helping both suppliers and food packagers avoid even costlier mistakes in marrying a food product with a package. Although such research is applicable to many types of plastic packaging, it seems to be particularly important for microwave products because of the relative newness of the category, the dollar volumes involved, and the fact that many polymer combinations have been experimented with.

Although university taste panels and independent testing organizations have long been available to conduct or-

Organoleptics is the science of food tastes and odors. Experts like this man sniff resin pellets which will become plastic food packaging to gauge their effect on food.

Sensory Testing: New Weaponry In The Battle For Better Taste

Your hot new microwave package is a bust with consumers. High-priced glitz hasn't produced repeat sales. If you had used sensory testing, the problem would have been obvious: the package made the product taste like used athletic socks.

Flavor and odor laboratories, where highly trained panelists detect and record taste and odor impressions, are in the business of keeping packagers from making expensive mistakes.

"High temperatures during processing or sealing of plastic packaging are often to blame for off-tastes or odors," says Mike Potts of Dow Plastics' Polyolefin Taste and Odor Panel in Freeport, Tex.

Dow's center uses trained Dow employees to gather statistical sensory perceptions. At Exxon's Center for Polymer Interaction, flavor profilers are specially trained non-smokers who communicate well and can differentiate various levels of sweet, sour, salty and bitter.

Flavor and odor impressions are analyzed according to component "notes" described in terms such as "earthy," "meaty," "swimming pool" or even "used athletic socks."

Such facilities may become increasingly vital in the future as some food processors scale down and are forced to cut back on such research-and-development projects.

These and other organoleptic testing facilities help packagers avoid inadvertently turning off consumers. For more information about their services, circle No. **441** for Dow and No. **442** for Exxon.

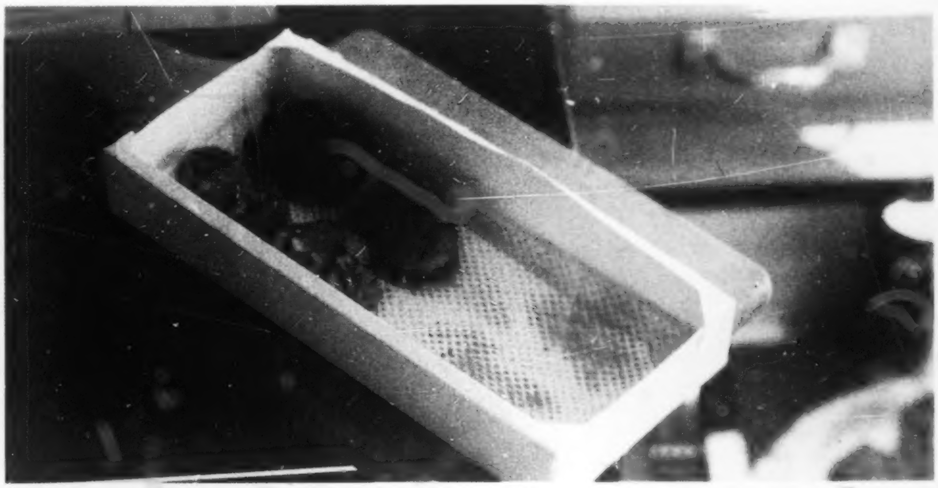
Second-generation susceptors are designed to avoid cracking and migration

ganoleptic studies, a few large plastics suppliers have established their own laboratories for such purposes.

But is it crunchy?

Progress is being made to increase the crispiness and browning of microwave foods, which can be crucial to overall consumer satisfaction.

While the FDA has been making progress in its quest to establish the safety of thin-film susceptors—many observers feel the agency will eventually give them a clean bill of health—new technology has afforded rapid improvements in susceptors.



Updated susceptors strive to deliver just the right amount of heat to the product, while absorbing grease, to boost crispness in microwave foods—and boost product satisfaction.

Demetallized "receptors" which make use of radiant heat to custom-crisp a particular product are being tested on puff pastries in the United Kingdom. So-called field-modifying aluminum foil labels placed within a dome lid are now commercial. These patches reportedly modify microwave energy to various components of a meal so that each portion is heated properly at the same time.

Other new susceptor designs thermally bond the vacuum-metallized films onto non-woven fabric backing. Heat is transferred through the fabric, which absorbs grease and aids in crispness.

All-film laminates of either vacuum-metallized aluminum or sputtered stainless steel are translucent, allowing the consumer to see the food as it cooks. Still another innovation in heat management is a fibrous susceptor that conforms to the outer shape of the food item and is moisture-permeable. This design promotes heating and drying of the outer food layer so that browning crisping can result.

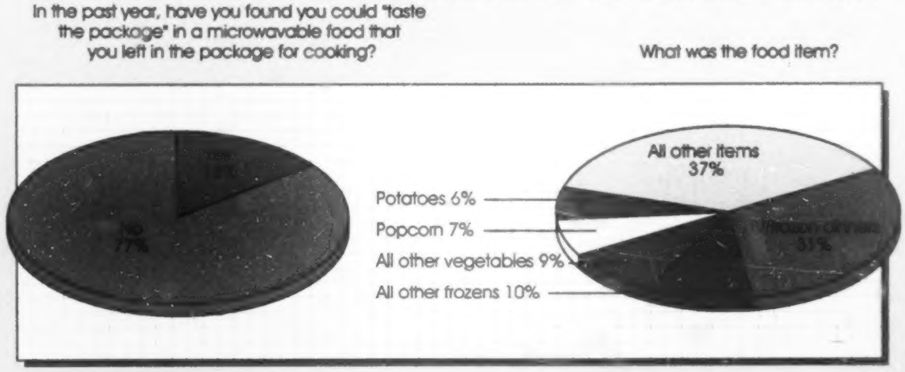
Suppliers of these types of susceptors seem determined to avoid the type of film cracking and potential migration of plastic, ink and adhesives that first concerned industry and the FDA.

Microwave packaging is at a turning point. For frozen items, the economic downturn comes at a time when competition among food marketers is fiercest, and as new shelf-stable and refrigerated products are nibbling away at share-of-stomach. Even established veterans of the frozen case say they are bracing for price cuts and other promotional gambits.

Meanwhile, marketers of shelf-stable items are striving to broaden their appeal beyond kids' meals and desk lunches into the lucrative dinner segment. Packagers of refrigerated items have seen in-store delis erode their market share.

New microwavable packaging ideas abound, but food marketers will need to prove they can successfully blend food science with packaging savvy. Consumers are sending a strong message: Good taste never goes out of style. ■

Consumers Sometimes Perceive Off-Flavors From Cook-In Microwave Packaging



Source: PACKAGING's Consumer Survey

The percentage of shoppers who notice off-flavors in cook-in microwave packaging has held steady at 12-13% in our last two annual surveys. For those who do notice such off-flavors, frozen products appear to be the biggest culprit.

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MELISSA LARSON
Senior Editor

"Fears of recession have given rise to a 'show me' attitude in consumers and retailers alike. New microwavable products had better be special."

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THE CAHNERS MAGAZINE FOR DECISION-MAKERS/MARCH 1991

LIFESTYLES BOOST SINGLE-SERVE USE

Teamwork Drives Plug-Ins To Top

Ways To Reduce Waste In Bulk Packaging

New P-S Labels: High Visual Impact At Lower Cost

Essentials Of Tube Fillers

COUNTRY GARDEN
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PLUG INS
Gently Warms to Freshen for 30 Days
COUNTRY GARDEN
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Includes Warmer Unit & 30 Day Fragrance Refill

PACKAGING

BREAKING NEWS

secure grip, is touted on the label as "Recyclable, so it helps protect our environment." An indentation in the bottom of each jar accommodates the neck and cap of the one stacked under it for shipping.

Campbell simplifies LeMenu package: Campbell Soup Co. has announced a packaging change for its LeMenu and LightStyle Dinner lines that will cut package weight by more than 25%. The plastic dome and aluminum foil lidding that originally covered the tray have been replaced by a single thin wrap; also, the LeMenu tray has been changed from nylon to polyethylene terephthalate. According to a Campbell spokesperson, total packaging weight for LeMenu has been reduced by 50% over the past few years.

Fortified wine gets unique bottle: Canandaigua Wine Co., Canandaigua, N.Y., has unveiled a new package for its Cisco fortified wine, which contains 20% alcohol. The new bottle, made of dark green glass with a long neck, is intended to set Cisco apart from wine coolers containing only 4% alcohol. Company officials say the redesigned container has satisfied critics of the original bottle, seen as too closely resembling that of a cooler. The new bottles are expected to be shipped to distributors this spring.

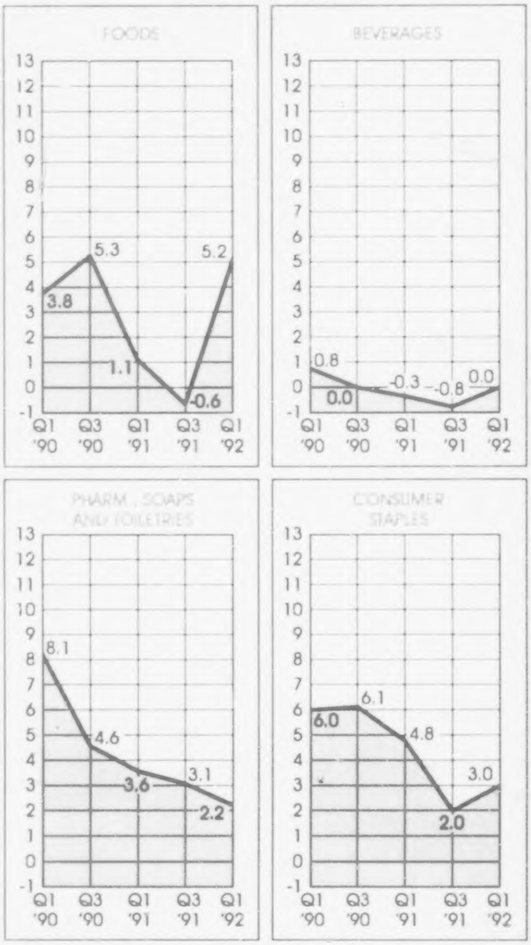
Consumer survey reveals attitude changes: Data generated by PACKAGING's 1991 Consumer Survey reveal significant changes in attitude about the environmental impact of packaging materials. Statistics from the nationwide survey of 694 adult consumers are now being tabulated for publication in our April and June issues. Consisting of 300 pages in a looseleaf binder, the survey covers consumer opinions on microwavable foods, product labeling, characteristics of packaging for pharmaceuticals and personal-care items, solid-waste strategies and numerous other topics of concern to makers and users of packaging machinery and materials. Next month PACKAGING will publish survey data on the trash problem; in June we'll highlight some of the other findings. The entire study is available for $500. For more information, contact Consumer Survey Editor, PACKAGING magazine, Cahners Publishing Co., 1350 E. Touhy Ave., Des Plaines, IL 60018.

Corrugated shipments set new record: According to the Fibre Box Association, the corrugated industry set a new all-time high for shipments in 1990. The association says 315,775 billion square feet was shipped—an increase of 0.8% over 1989.

KEY INDUSTRIES SOFT

Manufacturers' shipments in key industries that account for more than 50% of total packaging consumption are softening, but by no means dropping dramatically. Despite the recession, first-quarter 1991 shipments calculated in dollars continue to grow in foods, drugs, soaps and toiletries and especially the broader-based consumer staples, which include foods, beverages, drugs and other products such as tobacco. Further slight softening is expected in the second half of 1991, before all categories show improvement.

MANUFACTURERS' SHIPMENTS
% Change Vs. Year Ago ($Billions)



Data Source: Dept. of Commerce Forecast: Cahners Economics

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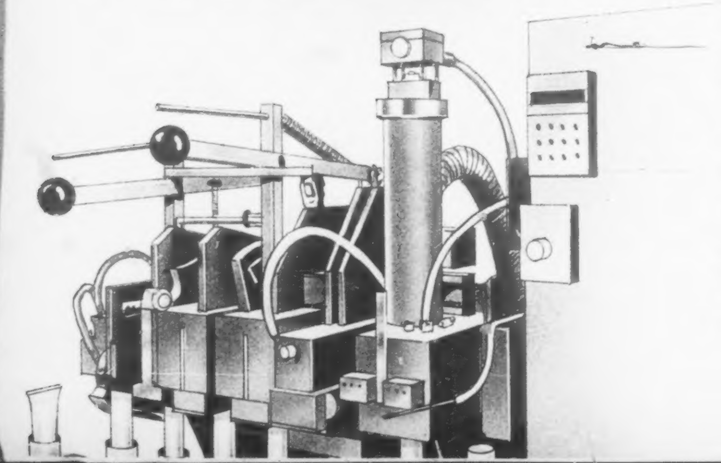
Single-serve packaging is increasingly found at work, just steps away from the office microwave. Page **26**

Pressure-sensitive primary labels are finding continued growth via new marketing niches. Page **36**

Rotary tube fillers and sealers handle everything from toothpaste to insulating caulk. Page **47**



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For seven years, S.C. Johnson worked on a new product concept. Packaging technology helped make it a winner

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Here's need-to-know information about filling and sealing plastic or laminated tubes

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On the cover: Consumers peel back the top barrier layer of Glade Plug-ins miniature fragrance tray before placing it in the warmer unit. Photo by Lorng Nelson-Curry. Page **40**

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Clear hot-stamped labels sell P&G's newest dandruff shampoo. Page **16**

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Special: Packaging & solid waste
What have some packagers done to address this vital issue, and what is left to be done? Also, a unique consumer-oriented pull-out

Southpack '91 Pre-Show Report
We detail the conferences, the exhibitors and the latest products at the first major packaging trade show of the year

What's new in horizontal form-fill-sealers
Diverse technologies come together to meet flexible-packaging needs

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TACKLING SOLID WASTE

Packagers Pursue Source Reduction, Recyclability Ideas

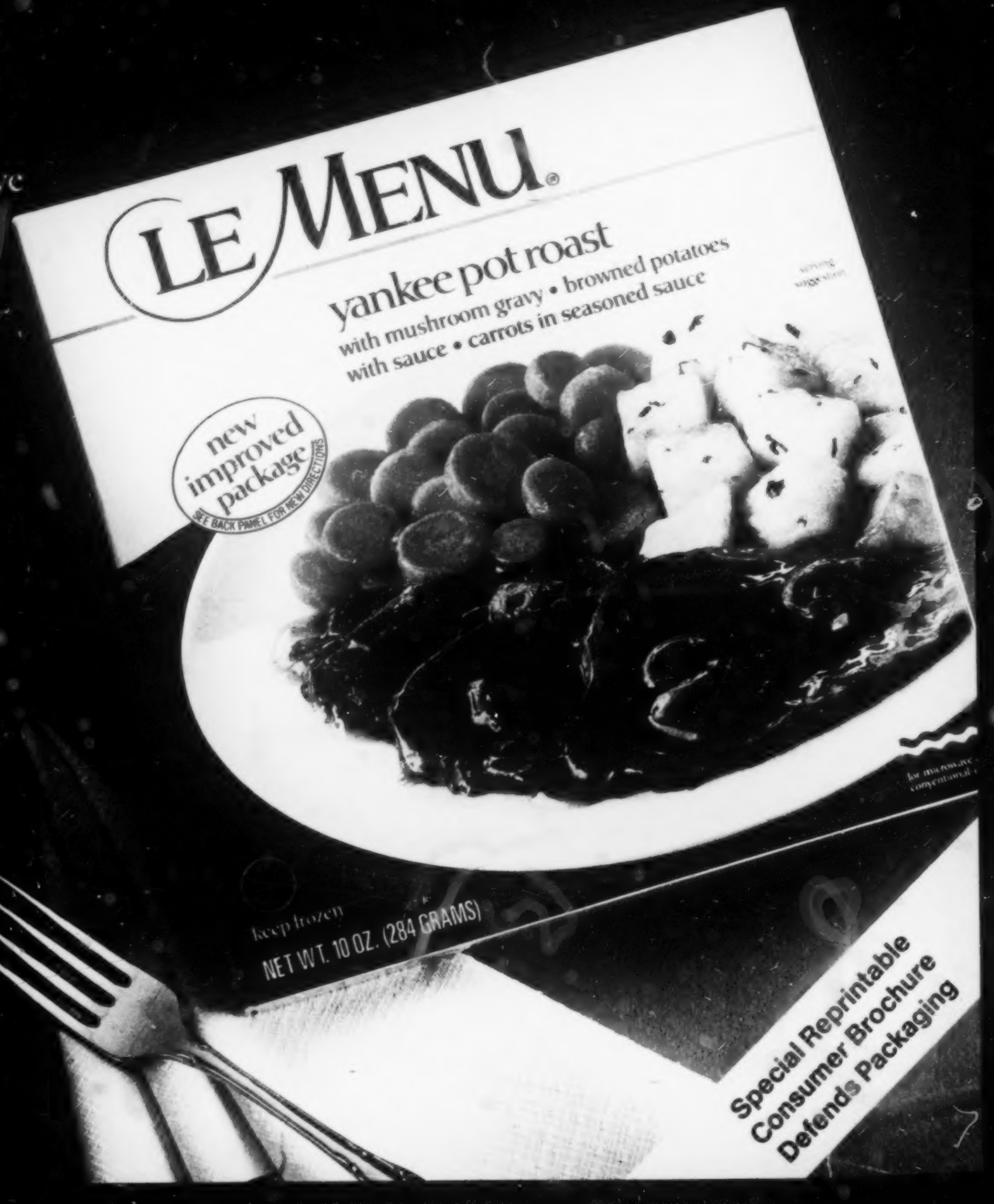
Exclusive Survey: Consumers Perceive Overpackaging

Updates On Legal And Retail Fronts

SouthPack '91 Product Preview

What Horizontal FFS Machines Can Do For You

Package Touts Haircare Promo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Special Reprintable Consumer Brochure Defends Packaging

PACKAGING

BREAKING NEWS

Cheese Sauce, Archer for the Kodak sheet film tray pack, Cadillac Products for the Easi-Care respirator pouch, Duralam for Pure 'N Gentle refill packs and Dura Zip deli pouch, Flexpaq for Pantene Magpaq, James River Corp. for Betty Crocker Hot Secret microwavable bread and Scholle for Product Containment System drum liner. Hot Secret also won the President's Award; Dura Zip, the Consumer Award. The AIMCAL 11th Annual Metallized Packaging/Label Competition named the package for Mrs. Paterson's Aussie Pie package of the year. It was converted by the Flexible Packaging Group of James River. Web Technologies metallized polyester film from Hoechst Celanese to make the package. Other AIMCAL winners were: Lowry's Big Beef Jerky, Quaker Oats Cycle Dog Food and Gillette Sensor razor. For Lowrey's, Printpack converted the Vacumet-metallized polyester film from ICI. Also in the package is Dow Surlyn. The Cycle package utilizes Surlyn and ICI film metallized and converted by Printpack. For the Gillette package, Web Technologies metallized the polyester film from Hoechst, Flexcon provided the label stock and Dow Industries produced the finished labels.

University study raps Maine deposit law: A University of Maine study asks the state to discontinue its bottle-deposit system for non-carbonated beverages, which went into effect late last year, and consider eliminating the deposit system altogether once municipal recycling becomes widespread. The study also urges Maine to assist municipalities in setting up recycling/redemption centers and to free food retail stores from serving as redemption centers. The study was funded by the National Food Processors Association, Washington, D.C.

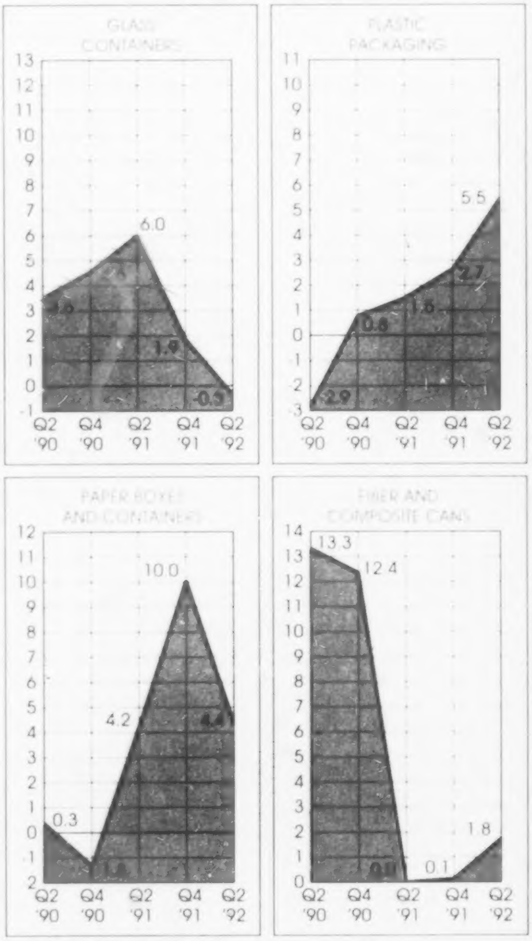
Book calls plastic packaging a 'dilemma': A cover blurb for the new book *Plastics: America's Packaging Dilemma* (Island Press, Washington, D.C.) calls plastic "the throwaway society's material of choice." Authors Nancy Wolf and Ellen Feldman suggest that "Packaging should be reusable" and "Packaging should be made of a single material." They also state, "Consideration should be given to banning the use of materials for food packaging that physically and technologically cannot be reprocessed into food packaging."

Researchers see healthy growth for labels: A new report by The Freedonia Group, Cleveland, Ohio, predicts that domestic demand for labels in packaging will grow at more than 7.1% per year through 1995. Helping drive this growth will be new applications for plastic containers, the study says.

CORRUGATED MOVES UP

The slow economy is forcing the prices of most packaging materials down, but paper-based products including corrugated containers are an exception. Cahners Economics forecasts that corrugated pricing will be 10% ahead of last year by the fourth quarter of 1991. Factors behind the rise include tightening demand as industrial markets begin to recover later this year. Meanwhile, glass and fiber-can prices are moderating and plastics pricing is expected to show only moderate gains through the remainder of 1991.

PRODUCER PRICE INDEXES
% Change Vs. Year Ago



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PACKAGING

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new improved
LE MENU
LE MENU
LE MENU

From nylons to nougat bars, a wide range of products can benefit from horizontal form-fill-sealing. Page **44**

More than 10,000 packaging professionals are expected to attend SouthPack '91 in Atlanta. Page **49**

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keep frozen
NET WT. 10 OZ. (284 GRAMS)

On the cover: Campbell's LeMenu frozen-dinner line employs new lidding technology to cut packaging material by 25%. Photo by Kevin Banna. Page **24**

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Food scientists join solid-waste debate 21
Scaled-down packages may increase food-borne diseases, they warn

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Reusable containers cut transport costs 84
Colored plastic bins end shipping errors between plants

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COMING NEXT MONTH

Preprinted corrugated means profit
Housewares, produce and P-O-P displays rely on it for eye-catching appeal. How does preprint affect recyclability?

Preview of the National Plastics Expo
We cover the conferences and list the packaging-related exhibitors at this major plastics trade show

Special Report: PEF Roundtable
New packaging-program graduates show how schooling pays off

Bold Hold.
STYLING SPRAY
Bold Hold.
STYLING MOUSSE

Special-edition graphics help boost Bold Hold sales to teenagers. Page **13**

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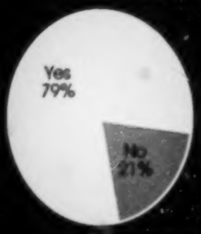
CONSUMERS PERCEIVE OVERPACKAGING

Do you think some products use too much packaging?

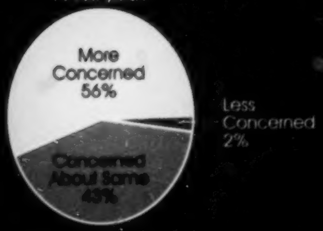


Packaging has a perception problem. Nearly four of five Americans believe some products are overpackaged.

[illegible] Packaging Consumer Study

SOLID WASTE CONCERN GROWS

How do you feel about the trash problem this year compared to last year?



Americans' concern about a supposed trash problem is clearly growing, spurred by numerous media reports.

[illegible]

Reducing Solid Waste

Changing attitudes and economics prompt new interest in package redesign with source reduction the goal

By Robin Ashton, Greg Erickson and Melissa Larson

The pressure on packagers to help solve the trash problem has not lessened. New research by PACKAGING shows that most consumers are more concerned about the issue this year than last. And significantly, most of them say they see signs of excessive packaging.

State and local legislators have introduced a new wave of anti-packaging legislation, undeterred by the defeat of environmental referenda in California and Oregon last year. The new bills seek to set recycling rates, ban nonrecyclable containers and force changes in packaging.

Packagers are struggling to make sensible decisions. Their task has been complicated by debate over terms such as "recyclable," "recycled content," "environmentally friendly" and "green." These conflicts and the emergence of competing organizations that seek to certify environmental claims have led to calls for consistent federal guidelines. The feds so far have demurred . . . and the marketing field has become a minefield.

Nevertheless, several large packagers of consumer goods have been trumpeting their strategies for using recycled materials and increasing package recyclability.

Led by Procter & Gamble, detergent packagers have increasingly incorporated recycled materials in their containers. Coca-Cola and Pepsi-Cola have begun programs to use post-consumer PET in new beverage bottles. H.J. Heinz has announced plans to switch from polypropylene to PET for its squeezable ketchup bottles, stressing increased recyclability.

Indeed, recycling is the strategy that has received most attention in the popular media. But data from PACKAGING's 1991 Consumer Survey reveal some new thinking. Consumers are considering the amount of packaging that surrounds products they purchase. Nearly four out of five respondents say they believe some products are overpackaged.

Inspiringly, a host of packagers have been pursuing source reduction. This strategy offers a number of advantages. First, it places a premium on efficient use of material—getting the most protection from the least packaging. Second, it can save a packager money. Third, it can circumvent arguments about recyclability and recycled content, affording packagers a noncontroversial marketing advantage.

Packagers working toward source reduction are pursuing diverse technologies. Some reduce material by switching con-

LE MENU
LE MENU
LE MENU
LE MENU

Two solid-waste strategies: Campbell Soup employed new lidding technology on its LeMenu line (top) to reduce material by 25%. Ethan Allen's Tom Lowery (left, above) helped fashion a comprehensive environmental program that includes foam recycling.

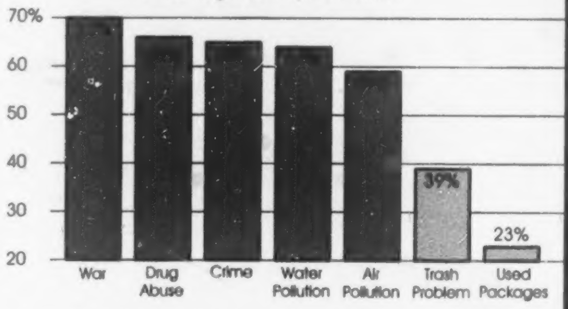
Consumers move beyond recyclability and begin to focus on overpackaging

PACKAGING AND CONSUMER PERCEPTIONS: FACTS AND FEELINGS

The latest data, compiled from PACKAGING's exclusive 1991 Consumer Survey, show consumers are willing to take a number of actions to help reduce the impact of packaging on the environment.

CONSUMERS KEEP SOLID WASTE IN PERSPECTIVE

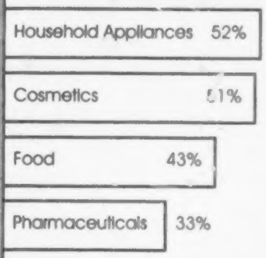
How concerned are you about these issues?
Percentage "Greatly Concerned"



Given a list of 11 pressing national issues, packaging waste ranks dead last; the trash problem ranks eighth.

PRODUCTS CONSUMERS BELIEVE OVERPACKAGED

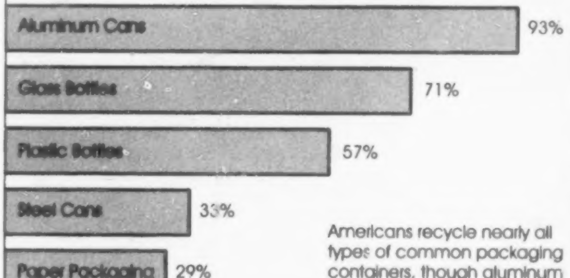
Which products do you think use too much packaging?
Base=Those who think some products overpackaged (79%)



Some Americans think all products, including drugs, use too much packaging. Surprisingly appliances lead the list.

CONSUMERS RECYCLE ALL MATERIALS

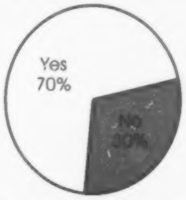
What packages do you recycle?
Base=Those who recycle (70%)



Americans recycle nearly all types of common packaging containers, though aluminum cans lead the list.

MOST AMERICANS RECYCLE

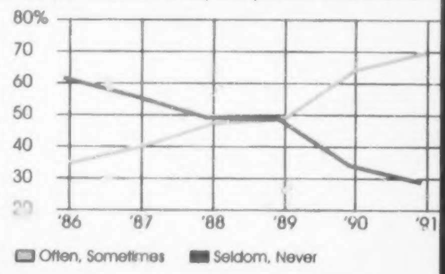
Do you recycle used packages?



With the rapid expansion of local programs, 70% of Americans now claim to recycle used packages.

CONSUMERS BUY RECYCLABILITY

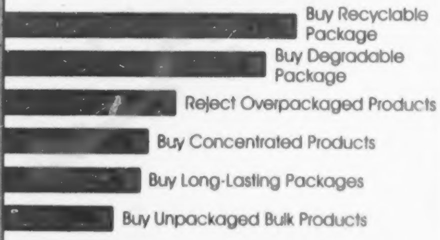
How often does the recyclability of the package affect your decision to buy one product over another?



A dramatic shift in consumer attitude toward recyclability is apparent in this six-year trend from our consumer surveys. Seven of 10 now regularly buy recyclable.

CONSUMER ACTIONS MOVE BEYOND RECYLABILITY

To help reduce packaging waste, which of the following actions are you willing to take?



Consumers are beginning to move beyond recyclability and focus on overpackaging and reusable packaging, as well. What most reject is doing without packaging entirely.

Source: 1991 Packaging Consumer Study

tainers; others by reconfiguring existing packages. Still others pursue package reusability, designing containers that have long-term uses. Along the way, some are also able to increase recyclability.

The following examples illustrate real-world applications of these techniques.

Chopping the dome

Campbell Soup Co. recently reduced the weight and volume of packaging for its LeMenu frozen entrees.

A new proprietary lidding film made primarily of PET has allowed Campbell to eliminate the original plastic dome and foil lidding. Also, the nylon tray has been replaced with one made of PET—a material widely viewed as more recyclable. These refinements have reduced the total weight of LeMenu packaging by 25%. Campbell estimates the saving in solid waste will total more than 4 millions pounds each year.

The company has been touting the new packaging on LeMenu's recycled-paperboard carton.

In the long run, the change could save Campbell money, though John Caporaso, the company's director of packaging development, says initial savings in materials have been offset by the investment in first-of-its-kind equipment to apply the lidding.

Jeno Van Winkle

Cost was a factor for Luigino's Inc. as the new company founded by frozen-food veteran Jeno F. Paulucci developed packaging for its Michelina's line of frozen pasta entrees. Luigino's also discovered solid-waste considerations were a factor in getting retail buyers to slot and display the product.

"Being out of the industry for five years since selling Jeno's to Pillsbury, I was amazed at how sensitive buyers were to these issues," says Paulucci. "It was like

Rip Van Winkle waking up."

Luigino's selected a dual-ovenable, polyester-coated paperboard carton consisting only of tray and lid. A typical tray-lidding-carton configuration for 10-ounce frozen entrees might weigh 48 grams. The Michelina's package weighs only 27 grams.

Paulucci says, "this package gives Michelina's better sales potential. And any leg up in this competitive environment is a plus."

Sting and the longbox

Designed to fill the same shelving depth as 12-inch vinyl records, the so-called longbox surrounding compact discs has been called excessive. A number of prominent musicians—several involved in much-publicized environmental causes—have been among those calling for a change.

When recording star Sting announced last year that he would not allow his new release to be sold in the longbox, executives at his label A&M Records sought an alternative. They found one at AGI Inc., Melrose Park, Ill., a supplier of packaging to the cosmetics and entertainment industry.

In 1985 AGI had developed and patented DigiPak, a paperboard-plastic substitute for the combination of longbox and jewel case. As pressure to "ban the box" began to build in the U.S. last year, AGI modified the DigiPak to create a package that was both longbox and storage case in one. Trademarked DigiTrak, the package significantly reduces the amount of packaging material used while providing similar merchandising advantages.

Richard Block, AGI president, says Sting is so pleased with the package that he has discussed it favorably in recent interviews.

Squaring up with PET

When Nathan Arthur, president of Arcadia Farms,

LEGISLATIVE HOT SPOTS: 1990 and 1991

Solid-waste legislation on both coasts is entering what might be termed its second generation: draconian measures introduced in several statehouses during 1990 proved unpalatable and were killed either by lawmakers or voters—sending their sponsors back to the drawing board. However, state budget deficits, especially in the Northeast, and public pressure to reduce solid waste by targeted deadlines make it likely that some legislators will try again, perhaps with packaging taxes or heavier disposal fees.

What to watch for in 1991: Advance disposal fees will be under consideration in several states. California will lead a host of states attempting to follow New York and Rhode Island in establishing their own definitions of such terms as "recyclable," "biodegradable" and "photodegradable." Repeated calls for federal intervention and national labeling standards appear doomed. Stay tuned.

State Highlights: 1990

California: Despite the defeat of Big Green, California legislators scored one major victory for environmental activists: Bill AB 3994, which established an environmental truth-in-advertising program and set definitions for terms like "recyclable." It was signed into law last fall over the objections of several packaging associations. So-called "clean-up" legislation will amend the bill in 1991. Legislators also pondered advance disposal fees. Observers at National Food Processors Association and the Flexible Packaging Association are betting that these fees will make headlines in 1991.

Massachusetts: A petition proposed by the Massachusetts Public Interest Research Group regarding the use of plastic packaging—which would have banned packaging that wasn't reusable, recyclable or made of recycled materials by the end of 1995—was ruled invalid on a technicality by the commonwealth's supreme court and was kept off the November 1990 ballot. The MASSPIRG initiative acted as a lightning rod for packaging-field concerns and seemed to galvanize an organized effort by groups such as Society of the Plastics Industry and FPA to make legislators aware of the impracticality of much of the proposed action.

Minnesota: After passing its landmark "environmentally acceptable packaging" ordinance in 1989, Minneapolis' city council and Minnesota's state legislative bodies began to sort out which types of packaging would comply. The Council for Solid Waste Solutions lobbied successfully for approval of plastic bottles. The Governor's Select Committee on Packaging and the Environment delivered its report on recommended fees, labeling, collection and the preemption of local packaging bans. Once advocating severe packaging bans, Twin Cities municipal leaders ended up initiating one of the country's most broad-based recycling programs.

New York: Opting not to wait for federal guidelines on environmental labeling, New York State legislators established their own criteria and emblems for voluntary labeling of packaging as "recycled," etc. Regulations were finalized in the fall of 1990. If manufacturers choose to identify any environmental attribute of the package, they must comply with state criteria.

Oregon: The so-called Oregon State Public Interest Research Group (OSPIRG) initiative, defeated by a wide margin on Nov. 6, 1990, would have required packaging sold within the state to be reusable five times, have a 50% recycle rate or a 50% recycled content . . . or risk being banned. A broad industry coalition called the Oregon Committee for Recycling mounted an expensive campaign to defeat the measure.

States To Watch: 1991

California: AB 144, the so-called clean-up bill amending AB 3994, should address some of the packaging field's concerns about language used in the first bill: namely, definitions of environment-oriented marketing terms and the timetable for the labeling laws to take effect. Assemblyman Byron Sher, author of both bills, appears to be willing to work with industry on these points. However, to the problems arising from a host of conflicting state labeling laws he appears to have turned a deaf legislative ear.

Sher is likely to also introduce legislation establishing an advance disposal fee system. These fees would reflect the cost of disposing of or recycling various materials that contribute to the solid-waste stream. These would be assessed at the manufacturer, distributor or retailer level, not at the point of disposal. Fees would vary from material to material. This proposal seems certain to touch off a full-scale war between proponents of competitive packaging materials.

New York: Industry watchers are bracing for the possible introduction of a proposal by New York's Public Interest Research Group, called the Waste Reduction and Packaging Act, which would not only require packaging to be reusable five times or be made with 50% recycled content but also require a 60% recycling rate by 1994.

Oregon: Packaging-field observers expect trouble from Senate Bill 66. This integrated solid-waste measure would establish a state task force with authority to recommend package design changes and recycled-content requirements. The Oregon Committee for Recycling is formulating its own legislative proposal stressing local recycling and increased markets for recyclables.

Other potential hot-spots: Florida and *Texas*, two populous states that have thus far watched the legislative furor from the sidelines, have new governors with possible environmentalist leanings. *New Jersey* has a gaggle of bills pending, proposing everything from taxing rigid containers to mandating state purchases of recycled materials.

Obviously, these are just the highlights. A host of other state legislation had, and will continue to have, an impact on the environmental scene. As state bills make news in 1991, we'll keep you informed in our monthly "Environmental News" section.

—M.L.

Packaging source reduction has received little media attention

CRAFTSMAN
25526
1-in. radius end cove
shape of cut

THE PRO
CRAFTSMAN
INDUSTRIAL
MADE IN U.S.A.

Tool maker Vermont-American abandoned skin packages for clamshells which serve as storage cases in its line for Sears Roebuck & Co.

HELPING HAND
Hook Assortment
CONVENIENT STORAGE CASE
HELPING HAND
Suction Hooks
REUSABLE STORAGE CASE
No 50403
No 50005
Made in USA
6 Small 2 Large

Faucet Queens' Helping Hand line of small hardware items now are packaged in unusual blister packages that become permanent storage cases after removing printed card.

Asheville, N.C., was considering a package for a new sports drink dubbed ProFormance, his eye was caught by a new bottle a friend found in England.

What first attracted him was the bottle's rectangular shape for better shelf face and in-plant stability, and its clarity for merchandising value. But as he and his partner began planning introduction of the drink, environmental advantages of the container began to take on greater importance.

Arthur saw that the one-piece, all-PET design would simplify recycling. Labeling also was chosen with recycling in mind.

"I knew a lot of dairies whose bottles were tough to recycle because of a paper label and glue," he says. "We also looked at areas we wanted to market, and the strict recycling legislation in Florida concerned us. So we basically designed the package to meet the Florida guidelines, while keeping Maine and California in view."

The resulting package employs a polypropylene stretch-sleeve label using no glue and a polypropylene dispenser cap. The lack of base cup reduces material as well.

"We do state the package's recyclability on the label," Arthur notes. "It's definitely a plus in the retail environment today."

Attention Sears shoppers

While the packaging of general-merchandise products "has not taken a [solid-waste] hit so far," says Keith B. Tice, director of packaging and labeling for Sears, Roebuck & Co., "we anticipate it will."

In response, Sears has established a far-reaching policy to minimize packaging waste wherever possible. The program includes lightweighting, setting recycled-content goals for corrugated and use of recycled plastic edgeboards. For hardware and other items typically packaged in plastics, Sears urges its suppliers to make their packages reusable or refillable.

Vermont-American, one of Sears's largest hardware suppliers and the world's largest producer of accessories for power tools, has employed plastic clamshells as reusable storage cases for several years. Jim Luebbers, Vermont-American marketing manager, says the original idea behind reusable packages had nothing to do with solid waste. "We wanted to give our customers increased utility and value," he says.

During the last couple years, Luebbers' company and Sears recognized that the technique had positive solid-waste implications. While neither Vermont-American nor Sears openly touts the solid-waste advantages of reusability on the packages, V-A has added the SPI recycling symbol to clamshells where applicable.

A Helping Hand

Another hardware packager, The Faucet Queens, Wheeling, Ill., has also used the storage-case idea for its Helping Hand line of nails, tacks and picture hangers.

"Nearly all such items are sold at retail in carded blisters," says John Lehman, company president. "The consumer had the problem of what to do with the leftovers. We hit upon the idea of increasing the mix and number of items in a particular package, which reduced SKUs, and making the blister a storage case."

How to create a storage case from a carded blister proved a bit of a challenge. But Lehman, working closely with his supplier, discovered he could put the blister on the back of the card, which was die-cut for visibility. The consumer simply pulls off the card, leaving the PVC storage case.

Legal uncertainty about terms such as "recyclable" keeps packagers cautious

Introduced last year, the storage cases have garnered Lehman's company a number of major new customers, including the Walgreen's drugstore chain.

Going whole hog

Users of industrial and protective packaging are exploring a number of strategies to reduce packaging waste.

Ethan Allen, the furniture giant, has taken a leadership position with a broad-based environmental program.

"When it comes to the environment, we want to be proactive, not reactive," says Tom Lowery, director of facilities and packaging at Ethan Allen and past chairman of the Institute of Packaging Professionals. "We don't want to just follow the law, but do what's right."

In developing an environmental policy and action plan for the company, Lowery had the full support of the company's highest executives. Chairman Farooq Kathwari is a strong supporter and charged Lowery and Charles Fafaglia, the company's director of personnel, with developing a comprehensive plan.

Lowery first helped establish a corporate environmental task force that analyzed current waste volumes and set goals for specific reductions. The task force then developed specific action plans.

When it comes to packaging, the program essentially dictates that all materials be recyclable or contain recycled content and contain no chlorofluorocarbons or heavy metals.

In setting up the program, Lowery has developed an extensive list of purchasers for all materials. "Our whole thinking was could we find markets for these materials," Lowery says. "Everything we recycle, someone is paying us for."

Part of Ethan Allen's success in this regard comes

Rectangular PET bottle used for ProFormance sports drink eliminates HDPE base cup and uses no-adhesive PP shrink-sleeve label and PP closure to ease recycling.

SUPERMARKET INDUSTRY PRESENTS A UNITED FRONT

One subplot has almost been lost in the environmental drama taking place in today's supermarkets. It's the friction between grocery manufacturers, whose products fill the shelves, and supermarket retailers, who travel the aisles and take the heat from Mr. and Mrs. American Shopper when those products aren't "green."

Supermarket wholesalers, by acting as a conduit for the needs of their retailer-customers, have also been drawn into the fray.

This friction, and the need to take a proactive stance on solid-waste legislation, recently led the grocery industry to form its own Committee on Solid Waste. The group's stated mission is "to develop, implement and support joint grocery industry projects and programs that contribute to the advancement of a national integrated waste management system."

Made up of representatives of such industry groups as the Grocery Manufacturers of America Inc., the Food Marketing Institute, the National-American Wholesale Grocers Association and the National Food Processors Association, the group met for the first time last May.

Four subcommittees deal with principal aspects of the program: market development, scientific and technical research, public policy and legislation, and consumer education. The scientific and technical research subcommittee is available to the other three groups as an in-house resource to answer technical questions.

Perhaps because of its members' clout (many are CEOs of supermarket chains and food companies), the group has moved swiftly to combine resources and come up with recommendations for government legislators.

Since the NFPA had already launched its own task force to study environmental labeling, the public policy subcommittee adopted the food processors' findings. The solid-waste committee has endorsed the NFPA's environmental-labeling petition to the Federal Trade Commission. Presentation of the petition to the FTC is imminent as of this writing.

Althought the details of the petition have not been made public yet, the NFPA is on record as advocating one national standard for environmental advertising claims, and also stresses the importance of maintaining food safety even as solid waste goals are being pursued.

The market development subcommittee is forming task forces whose aim will be to stimulate market demand for recycled items made from materials the grocery industry generates in abundance: plastic bags, shrink wrap—even pallets. Both recycling and composting will be researched.

As the Grocery Industry Committee on Solid Waste completes its first year, Peter Larkin, FMI spokesperson, sees progress on several fronts.

"I feel that food processors, retailers and wholesalers in our group now have a better understanding of the problems and challenges faced by the others," he says. "The solid-waste issue is more than an environmental issue for us. It's an industry-relations issue, and we feel we've made progress in communicating among ourselves." —M.L.

NEW!
Michelina's
FETTUCCINE CARBONARA
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Luigino's chose a simple paperboard/plastic tray and lid for its Michelina's pasta line. Package saved 44% over more complex, tray-lid-carton configuration.

Source reduction not only reduces solid waste, it can reduce costs

from its determination to provide materials to recyclers in as clean and efficient a form as possible. The program includes installation of trash compactors in every company warehouse and store. Employees use the system to compress polyethylene and polypropylene films and foams in convenient 18-inch-square cubes. The company has even started using material-compatible adhesive tapes.

The program has also led to some materials shifts. Multilayer materials have been examined for recyclability. For example, a kraft-paper/polypropylene foam sheet structure used to protect a dining-room table was shifted to a polyspun polypropylene-foam structure.

"Now when customers ask our dealers what they're doing about the environment, we can say we're leaders," Lowery says. ■

A&M Records released Sting's new compact-disc recording in an unusual paperboard/plastic package (bottom) that works as both longbox and permanent storage case. The traditional longbox (top) has become controversial.

INDEPENDENT CERTIFIERS ELICIT MAINLY YAWNS FROM PACKAGERS

As packagers ponder how best to get their environmental message across to consumers, they're facing a hodgepodge of conflicting state labeling regulations. Meanwhile, private organizations that want to give environmental ratings to products and packages are themselves jockeying for position.

Consumers are concerned about the solid-waste effects of their favorite products and packaging. Supermarket retailers know it, packagers know it and our latest consumer survey data confirm it (see charts).

National independent certification programs, created during the chaotic period before environmental packaging claims started being challenged, were designed to award symbolic seals that marketers and retailers could use in promoting a product's friendliness toward the environment. The product manufacturer would pay for this analysis. In theory, consumers would quickly come to trust the "seal of approval" on their favorite packages.

Recently, these independent certification groups appear to be shifting to more limited, and at the same time broader, "life-cycle" analyses which include both the package and the product it contains. But controversy between the managements of competing Green Cross and Green Seal organizations over what, exactly, life-cycle analysis means has most marketers doubting that either certification service is really the answer for them.

Green Cross Certification Co., a division of Scientific Certification Systems Inc. based in Oakland, Calif., has been certifying products since June 1990. The vast majority of certified items are paper products with recycled content, such as grocery bags, dinner napkins and paper towels. The company has also "certified" several glass firms that have instituted recycling programs.

Green Cross recently announced that it will perform life-cycle analysis on total product/package systems—a service that rival Green Seal Inc. has said it will begin performing this spring. Repeated public disagreements between executives of the two services have centered on the methods used to gather information regarding a product's total effect on the environment, and on what criteria will and will not be included in the assessment.

Green Seal's CEO Denis Hayes says his organization will avoid certifying only the package and instead will use panels of experts to establish a set of criteria for each grocery product category. Even the facility where the product is made and packaged will be taken into account.

"It's misleading consumers when a manufacturer takes credit for a package using recycled content, when the product itself is harmful to the environment or when the facility where the product is packaged is fouling the downstream water and is in violation of several OSHA guidelines," he asserts.

Despite the admitted difficulty in fulfilling all the requirements necessary to obtain his firm's seal of approval, Hayes says he hopes the Green Seal will someday be as trusted and widespread as Underwriters Laboratories' "UL" designation.

Both services seem to be targeting makers of such items as household cleaners, light bulbs, and paper products—cases in which both the product and its package have an impact on the environment—and would appear to have little benefit for packagers of foods and pharmaceuticals.

One packager told us neither seal would provide the consumer with enough specific information—comparing it to the Good Housekeeping Seal. "Nobody knows what that means either."

Tom Rattray, associate director of corporate packaging development for environmental pioneer Procter & Gamble, says his company has no need for independent certification. "We have to certify the vendors who provide us with recycled packaging anyway, so we have all the supporting data we need. Our customers trust us. And we carry an 800-number on every package in case they have questions."

Linda Brown of Green Cross stresses that government legislation has traditionally mandated a "minimum guideline" and that her firm performs a necessary service in establishing a "higher standard." Still, the reaction of many packagers to independent certification programs is, "Why bother?" Of far more concern are looming state-by-state regulations governing what packagers can and cannot say on their containers.

"What we need is uniformity on a national level," says the packaging director of a major food manufacturer. "Otherwise, we're afraid the consumer will quickly become confused." Meanwhile, his company is making packaging improvements and flagging them on the new packages.

As of this writing, only two packagers have received Green Cross certification for their packages, independent of the product within: Foodworks Grown Right apple juice for its glass bottles with certified cullet content and The Clorox Co. for the recycled content of its bleach and detergent cartons.

Clorox spokesman Pat Meehan says the household product giant does not use the Green Cross symbol on its packages. "We entered the program because our retail [supermarket] customers wanted it," he explained. According to Meehan, it's up to participating retailers whether to flag the Clorox packaging as Green Cross-certified. He says his company has not compiled any information about whether consumers have noticed the certification, nor do they have data on the impact, if any, on sales.

Some packagers see the environmental labeling issue as a matter of trust. Perhaps it is. But the early days of green marketing wars—during which trash bags headed for the landfill were touted as "biodegradable" and the word "recyclable" took on a host of different meanings—just about guaranteed that some sort of legislated guidelines would eventually come into play. As far as most packagers are concerned, the sooner (and the more uniformly), the better.

—M.L.

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THE CAHNERS MAGAZINE FOR DECISION-MAKERS/MAY 1991

THE POWER OF PREPRINT

New Preprint
Techniques
Lower Costs

How Coors
Achieves JIT

Equipment
Options For
Heat Sealing

[illegible]

COLLIER
Classic
TOMATOES
GOLD

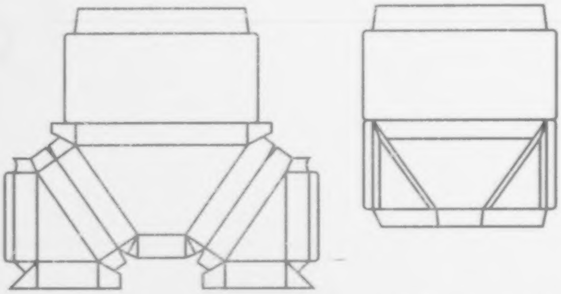
BREAKING NEWS

cal innovation went to the tray/cover for Coopers animal health vaccine manufactured by Prent Corp. with vinyl from Goex Custom Extrusion.

Firm sees big growth in OTC drugs: The U.S. over-the-counter drug marketplace is being thoroughly transformed, says a new report from business researchers Find/SVP. The firm says a growing number of drugs once available only by prescription are being made available for OTC sales. As of 1990, total domestic sales for the OTC market reached approximately $10.6 billion at the manufacturers' level. By 1996 sales could climb to $17.6 billion as a result of Rx-to-OTC switches.

Aluminum bottle makes salon debut: Joico Laboratories, City of Industry, Calif., has introduced a line of salon hair-care products in aluminum bottles. Unlike aluminum beverage cans that are printed to cover most of the aluminum, the brushed surface of the Joico bottles is given a transparent coating so a maximum amount of aluminum remains visible. Arroyo Plastics developed a custom polypropylene closure. The bottle supplier is Advanced Monobloc.

Paperboard folds into three-pocket tray: Intricate folds enable a single paperboard blank to become a three-compartment, lidded tray for dual-ovenable dinners. The carton, said by supplier Kliklok Corp. to be the first of its kind, is designed to be displayed either flat or on its edge in the freezer case.



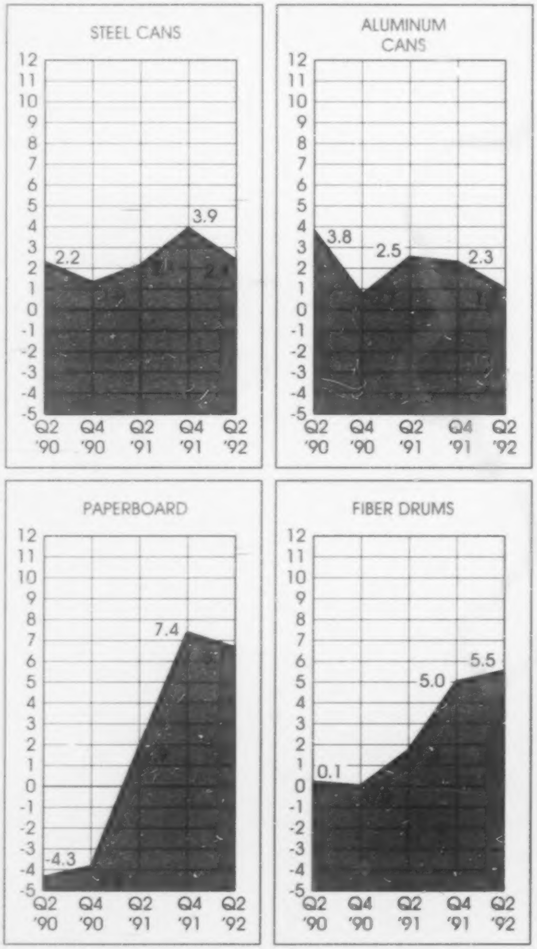
Danes update eel package: One winner of the Scanstar 91 Packaging Competition is a PE-coated fiberboard carton from Danapak, Denmark, which replaces the wooden crate previously used to ship live eels. A Finnish press release says, "The problem of packaging living eels is that they are too lively. It had to be prevented that the eels slip out of the package before it is full. Previously there were needed at least three workers before all eels were in the box and the lid on."

CAN PRICES STABLE

Price increases for both aluminum and steel cans have been very moderate for nearly a year, as weak demand for the basic metals in non-packaging uses holds down costs. This scenario is forecast to continue at least through the middle of 1992, though steel cans could experience a bit more upward pressure in the second half of this year. As we reported last month, prices for paper-based products, including paperboard and fiber drums, are expected to rise later this year and into 1992, following two years of price decreases.

PRODUCER PRICE INDEXES

% Change Vs. Year Ago



Data Source: Bureau of Labor Statistics   Forecast: Cahners Economics

PACKAGING

A CAHNERS PUBLICATION
VOLUME 36 NUMBER 6

Versatile packaging teams make JIT work at Adolph Coors' Shenandoah brewery. Page **34**

What benefits does formal packaging education offer future employers? Page **41**

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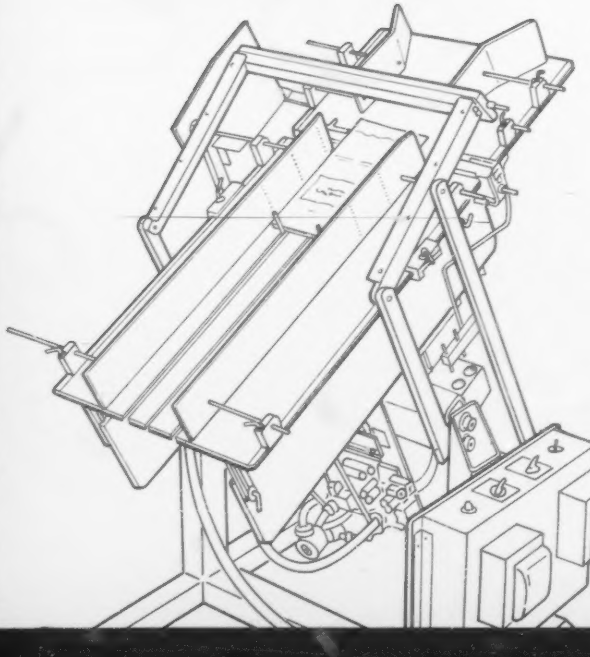

Proper heat sealing is crucial to a package's function and appearance. Page **51**

On the cover: Branded produce stands out in dramatic black preprint cases. Photo by Kevin Banna. Page **26**

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COMING NEXT MONTH

PACKAGING's 1991 Consumer Survey

Face it. Your product is judged by the package it comes in. What do consumers think of easy-opening, microwaveable, resealable and other attributes and trends? The latest from our exclusive annual survey.

Advanced testing systems cut costs

Damage rates too high? Are your products under- or over-packaged? There's only one way to know for sure—lab testing.

1991 Innovator Awards ballot

Here's your chance to vote for the best equipment, materials, containers, redesigned and new retail packages on the market.

NO REFILL
Coca-Cola
CLASSIC

Contoured 'classic' bottles live on as larger NR packages. Page **15**

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ENVIRONMENTAL NEWS

Study Suggests Environmental Terms Are Lost On Many Consumers

Environmental marketing messages used on packaging or in advertising may be lost on most consumers. That's one conclusion from a recent study conducted by Environmental Research Associates for the Council on Plastics and Packaging in the Environment (COPPE).

Although 80% of the 1,000 adults polled by telephone said they knew what the term "recyclable" meant, only 48% knew the meaning of "environmentally friendly" and only 16% understood the meaning of the term "source reduction."

Interviewers asked adults from all 50 states to identify five environmental terms: the previous three plus "biodegradable" and "green labeling." Those claiming to know each term were required to accurately define it before they were officially recorded as understanding it.

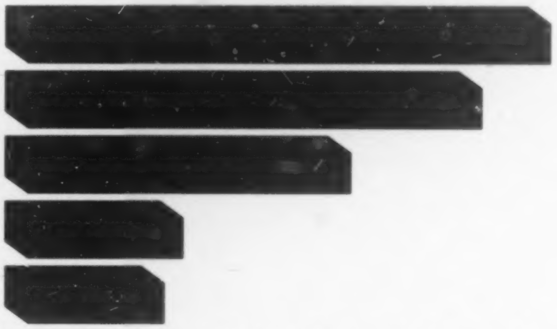
Although respondents in higher income brackets were more likely to know the terms "biodegradable" and "environmentally friendly," income level seemed to make no difference in understanding the term "source reduction."

COPPE says 37% of those polled named environmental groups as their best source of unbiased information about the environment, followed by 24% who named consumer groups, 19% who named the news media, 9% who relied on the stores where they shopped, 7% who named the government and 5% who named product namufacturers.

For more information about the study, circle Reader Service No. **421**.

WHAT'S IT MEAN?

Percent Of Adults Polled Who Understand The Terms



Many adult consumers are missing the environmental message packagers are trying to send, according to a study commissioned by COPPE.

Source: Council on Plastics and Packaging in the Environment

Cost Impedes Progress, Say Packaging Execs

What do manufacturing and packaging executives think about the issue of solid waste? The Gallup Organization recently polled executives of Fortune 500 companies to find out for design firm Walter Dorwin Teague Associates.

Of those polled, 35% said they saw increased production and manufacturing costs as an obstacle to adopting environmentally friendly packaging—down 8% from the previous Teague-Gallup poll taken in November 1989.

Another 18% said inconsistent laws discouraged green packaging—an increase of 16% over the previous survey.

Also significant was the 62% of respondents who expressed confidence that the public would be willing to absorb the increased costs of environmentally friendly packages. Only 58% felt that way last year.

The Gallup Organization conducted the telephone survey with a random sample of 100 packaging decision makers of Fortune 500 consumer-product companies. The range of error is plus-or-minus 9.8%. For more information on the survey, circle **422**.

Flexibles Group Supports Petition On Green Claims

In a letter to the Federal Trade Commission, Glen Braswell, president of the Flexible Packaging Association, expresses his group's support of the National Food Processors Association's "green marketing" petition to the FTC.

The petition, filed early this year and supported by other food industry groups, asks the FTC to adopt voluntary national industry guidelines for the use of environmental marketing terms. (See related item above.)

The fact that the petition was filed with the FTC has received wide attention. Here are the goals of the petition, according to the FPA: (1) assure the free flow of environmental information to consumers so they can make marketplace decisions based on fact; (2) assure the truth and accuracy of environmental claims; (3) provide one nationally uniform approach to environmental marketing to help stimulate investment by industry; and (4) foster competition to improve the environmental attributes of products and packaging.

Industry seeks FTC assistance because of the commission's authority to regulate advertising claims, and because many industry groups believe regulation of environmental marketing terms must be standardized at the federal level, rather than left to each state's legislature. The latter scenario now seems most likely.

In his letter, Braswell says, "FTC leadership is urgently needed if we are to foster nondeceptive environmental marketing communications which will stimulate product and packaging innovations to benefit the environment."

Drink Box Makers Target Schools

The makers of aseptic packaging in the U.S. have gotten a real education about facing environmental controversy. Now they're doing some teaching of their own. After suffering a ban on the aseptic package in Maine and criticism of the Aseptic Packaging Council's advertisements touting drink boxes as being as easy to recycle as newsprint, drink box proponents are at least getting an A for effort.

A recent story in *The Wall Street Journal* on the aseptic packaging controversy said some Maine legislators had predicted the state would lift the ban at least long enough for the industry to prove its recycling claims.

That proof may be coming. Pilot school recycling projects for drink boxes are winning praise. And the use of hydrapulping to extract wood—do you mean wood or cellulose?— fibers from the containers appears to be practical. However, the problem of what to do with the aluminum and plastic left over has not been solved.

Now the aseptic packaging industry has teamed up with Scholastic Inc. to provide some classroom materials that teach kids about packaging. The program, called "Planet Earth: The Whole Package," is currently being distributed to all teachers whose schools subscribe to *Scholastic* magazine.

The program consists of an in-classroom poster and suggestions for exercises and projects to stimulate a greater awareness of the process of packaging. Students are encouraged to examine such issues as how packages are made and transported, how much or how little waste each kind of packaging represents and how these processes affect the planet. Suggested at-home assignments are also included to involve the entire family in packaging awareness.

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THE CAHNERS MAGAZINE FOR DECISION-MAKERS/JUNE 1991

EXCLUSIVE CONSUMER SURVEY

Annual Study Probes What Consumers Want

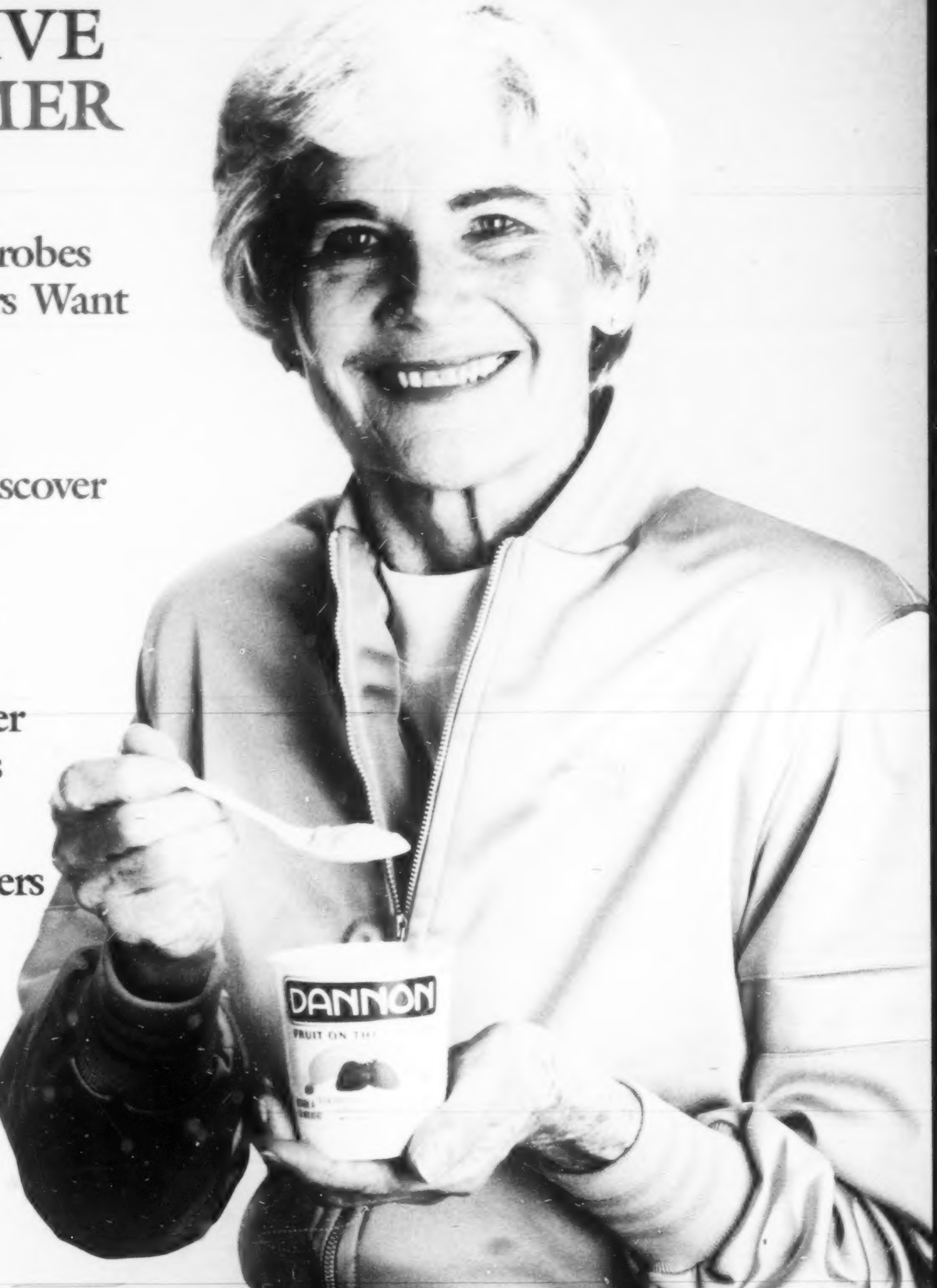
New Demand: Easy Resealing

Older Singles Discover Single-Serve

Package Testing Saves Money

Package Refresher Course: Aerosols

Help Pick 1991 Innovator Winners



BREAKING NEWS

PACKAGING, May 1991.) The CFTA argues that the bill is unnecessary because federal regulations already require disclosure of a container's net contents on package labels.

Corrugated supplier touts change in specs: A spokesperson for Menasha Corp. says manufacturers who ship their products by common carrier can save on freight costs and increase productivity under a new regulation known as Alternate Rule 41/Item 222. (See PACKAGING, March 1991.) Bill Whitsitt, materials and testing consultant, says the rule's emphasis on stacking strength reduces the likelihood of overpackaging.

Corrugated executive questions recycling: During an address presented at the spring meeting of the Association of Corrugated Converters, Monte Haymon, president and CEO of Packaging Corp. of America, asked a number of provocative questions regarding corrugated recycling. Among them: What is recycled fiber and who will define it? How much recycle content will be required by the market? What premium, if any, will the market pay? He then stated, "As recyle content is driven up, and it will be, the large majority of linerboard machines—perhaps as much as 80% of them—will have difficulty holding compression values. Thus it is important that independent converters partner with suppliers who can deliver both compression and recycle content in the same product."

Recycling seen affecting plastic demand: A new report from Market Search, Inc., Toledo, Ohio, says plastics used in packaging will reach a total 19 billion pounds in 1996, up from 16 billion pounds in 1991. Recycling will have a big impact, according to an analyst. She says increased use of recycled resin will cause a loss of business to polymer suppliers while creating a corresponding opportunity for recyclers.

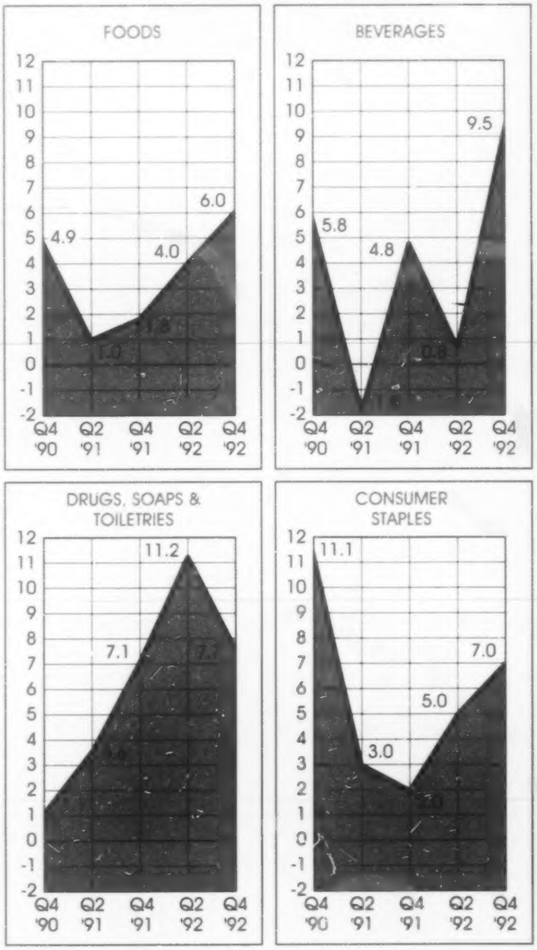
Study group foresees growth in use of PS: A new report from The Freedonia Group, Cleveland, Ohio, says North American demand for polystyrene in packaging should expand 2.8% annually through 1995 and reach 3.1 billion pounds by 2000.

Tube Council honors brainstorms: The Tube Council of North America, New York, N.Y., has announced winners of its 1990 Tube Contest. Among them: butter in a tube, Jell-O gelatin in a tube and Play-Doh modeling clay in a tube. Perhaps best of all is a proposal for a family line of toothpaste: one flavor for Dad, one for Mom and one for the kids.

SHIPMENTS BETTER

The U.S Commerce Dept. has revised its figures on manufacturers' shipments of key industries, including foods, beverages and pharmaceuticals. For the most part, shipments have been better than first reported. Cahners Economics forecasts also show that the economy is expected to begin shaking off the recession beginning with the third quarter. Still, beverage shipment growth will be erratic through next year and the broader-based consumer-staple measure will only begin to rise early next year.

MANUFACTURERS' SHIPMENTS
% Change Vs. Year Ago ($Billions)



Data Source: U.S. Dept. of Commerce Forecast: Cahners Economics

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STRAWBERRY-BANANA
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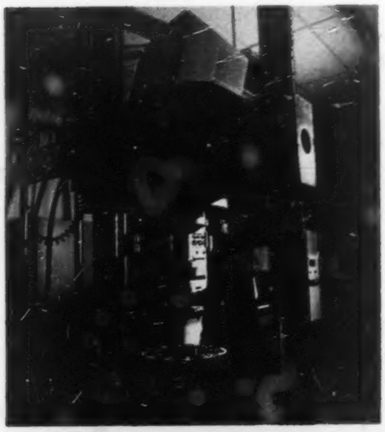

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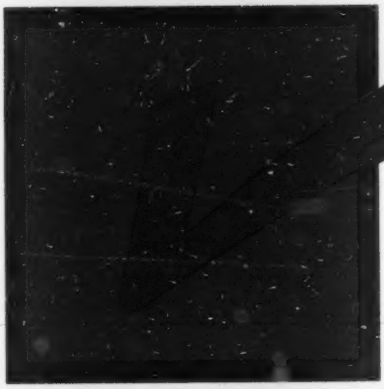

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WHITE ZINFANDEL

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The Fifth Annual PACKAGING 100

The 100 largest domestic consumers of packaging materials and containers are ranked and evaluated.

Closure developments offer convenience

Flip-tops, twist-tops, push-pulls—today's closures are making more products more convenient. The issues of consumer safety and child-resistance remain important considerations.

Refresher course on palletizers

From the packaging line to the store, palletizing machinery prepares products for distribution and storage.

GE
Silicone II
OUR BEST
White
Bathroom Tub & Tile Sealant
anced 100%
icone Rubber
ew Resistant
2.8 fl. oz. (82.8
AUTION! UNCURED PROD
ACT IRRITATES EYES
BACK CAREFULLY

Peggable tubes replace clamshell blisters for GE sealant line. Page **21**

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CONSUMERS WANT IT ALL

Easy open, easy close, single-serve convenience, recyclability—consumers in the '90s want the complete package, our exclusive survey shows

By Robin Ashton, Editor in Chief

Consumers are demanding more from packaging.

It's no longer enough that packages provide the basics—that they preserve flavor and freshness, provide value, or protect against tampering—though packages that fail to meet these standards are doomed to failure.

No, consumers now want packages that also offer a host of convenience features, some of them contradictory.

Meeting these complex demands is the challenge facing packagers in the 1990s. The stakes are high: A successful package sells product; a flawed package creates liabilities that go beyond poor sales.

Helping packagers anticipate and act on shifting consumer demands is the purpose of PACKAGING's exclusive annual Consumer Survey.

Key findings

Findings from our sixth survey, conducted with help from leading consumer research firm National Family Opinion in January, show significant changes in the use and importance of several key packaging performance features:

- The importance of resealability is growing rapidly for food, pharmaceutical and even personal-care products.
- Ease of opening is also growing more important.
- Older consumers have discovered single-serve food containers; use among older singles skyrocketed, while that among young singles plummeted.
- Use of microwave ovens has jumped dramatically among younger consumers, perhaps as economic conditions restrict their eating away from home. More than 98% of young couples now claim to use microwaves at home.
- At the same time they demand more convenience features, consumers also want *less* packaging. Nearly 80% believe some products use too much packaging. And almost 50% say they will reject products that appear overpackaged, an 11-point jump over 1990. A base trend that lies behind several of these shifts is the gradual aging of the population. This is an overall change that packagers should watch closely and try to anticipate as the decade progresses.

It is also clear that consumers want packaging that makes them feel good about the environmental consequences

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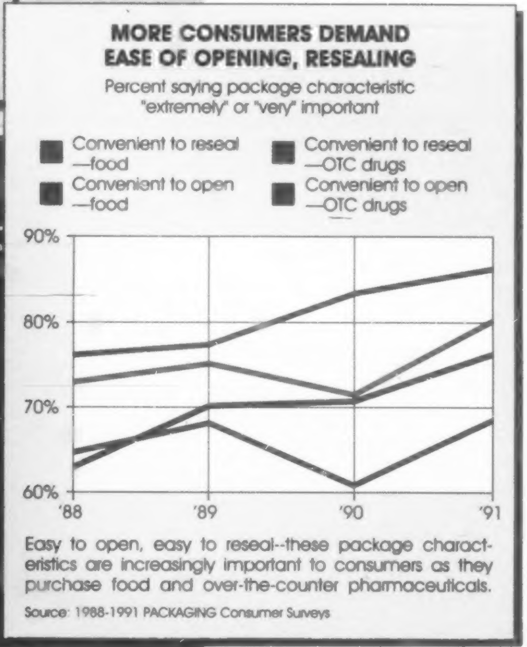
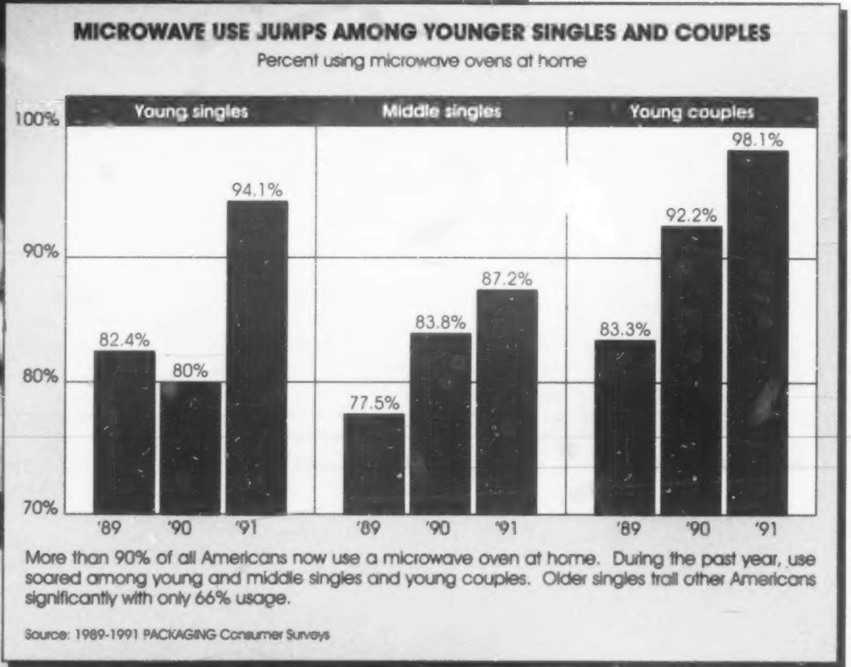

MORE CONSUMERS DEMAND EASE OF OPENING, RESEALING
Percent saying package characteristic "extremely" or "very" important
■ Convenient to reseal —food
■ Convenient to open —food
■ Convenient to reseal —OTC drugs
■ Convenient to open —OTC drugs
90%
80%
70%
60%
'88
'89
'90
'91

Easy to open, easy to reseal--these package characteristics are increasingly important to consumers as they purchase food and over-the-counter pharmaceuticals.

Source: 1988-1991 PACKAGING Consumer Surveys



More than 90% of all Americans now use a microwave oven at home. During the past year, use soared among young and middle singles and young couples. Older singles trail other Americans significantly with only 66% usage.

Source: 1989-1991 PACKAGING Consumer Surveys

of their choices. They are willing to take some action—70% claim to recycle and nearly 70% say they are willing to spend more for recyclable packages. But most are not willing to sacrifice convenience.

In the text and charts that follow, we will examine some of these key findings in more detail and also look at new data, such as package preference for household products and important package characteristics of personal-care products, included in the survey for the first time.

Resealing it right

The convenience of resealability is increasingly important to consumers.

"Convenient to reseal" now ranks third in characteristics consumers consider extremely or very important for food packaging. This represents a jump of nine points over 1990.

Resealability sits less than two percentage points behind the leading characteristic consumers demand of over-the-counter drug packages, tamper evidence. It rose four points this year.

Resealability is the second most important characteristic for personal-care products.

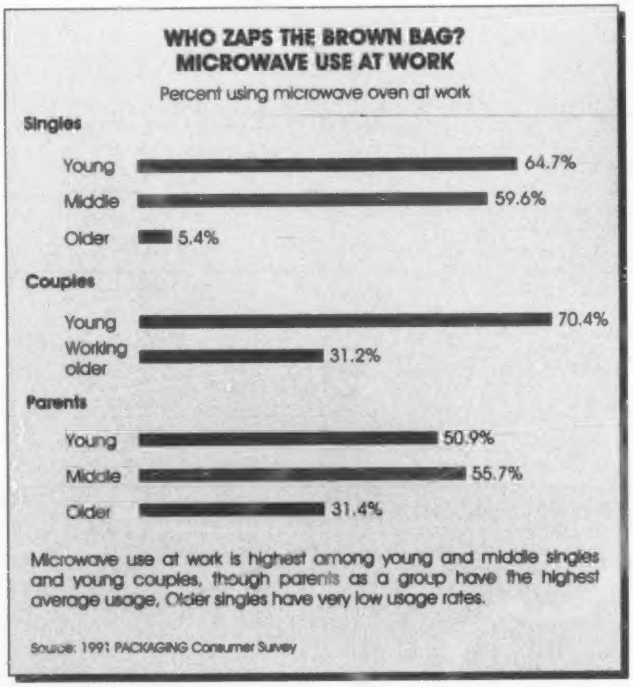
The importance of easily resealable packages rose across nearly all demographic groups this year. Very significant gains, in excess of 10 percentage points, were reported by consumers under 30, working older couples, and those in their 30s and 40s. Resealability is most important to older consumers, married or single, working or retired.

Possible actions: Continue development of new resealing technologies, particularly for flexible packages and drugs. Market resealability of older package types, especially rigid containers.

Serving the older single

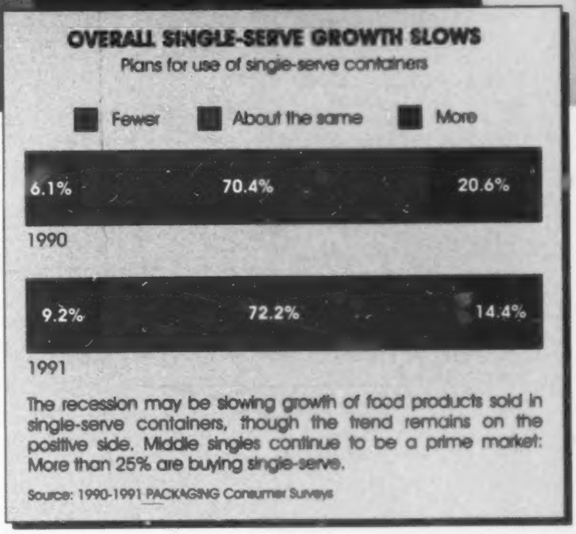
The most dramatic shift detailed by the survey is the discovery of single-serve food containers by older singles.

A year ago, a full two-thirds of older singles said they never or seldom used single-serve foods. This year,



Microwave use at work is highest among young and middle singles and young couples, though parents as a group have the highest average usage. Older singles have very low usage rates.

Source: 1991 PACKAGING Consumer Survey



The recession may be slowing growth of food products sold in single-serve containers, though the trend remains on the positive side. Middle singles continue to be a prime market: More than 25% are buying single-serve.

Source: 1990-1991 PACKAGING Consumer Surveys

fewer than 40% reported such light use. In contrast, the percentage noting use three or more times a week jumped from 18% to 27%.

Foods in single-serve packages make a great deal of sense for older consumers on their own. They reduce product waste, provide greater variety and often minimize clean-up.

A proliferation of new single-serve products in formulations with reduced fats, sugar and sodium may also be contributing to growth in this area.

In contrast to single-serve growth among older singles, use among young singles dropped dramatically. Young singles reporting use three or more times a week fell from 37% to 23%.

Possible actions: From the beginning, many single-serve food products were targeted at children, younger singles and parents. Older singles, a group that will grow dramatically in coming years, will demand single-serve products with more variety and sophistication, stronger flavors and formulations that limit fats, sugars and sodium.

As a group, younger singles and couples have traditionally trailed other consumers in their use of microwave ovens. No more.

The percentage of young singles who said they use microwaves at home jumped 14 points in the current survey, to more than 94%.

Young couples, who reported usage of 83% in 1989, now place that usage at an astounding 98%, the highest of any demographic group.

Microwave usage by middle singles is also up 10 points in two years to 87%.

This compares with usage of 90.6% for respondents as a whole, up more than one point from the 1990 survey.

One factor in the growing use of microwaves among young consumers may be the recession's effect on their ability to eat at restaurants.

Possible actions: Whether younger consumers will stay home and use their microwaves after their finances improve is problematic. A bigger opportunity may be

CONSUMERS PREFER PLASTICS FOR MOST HOUSEHOLD PRODUCTS

Package preference for household products

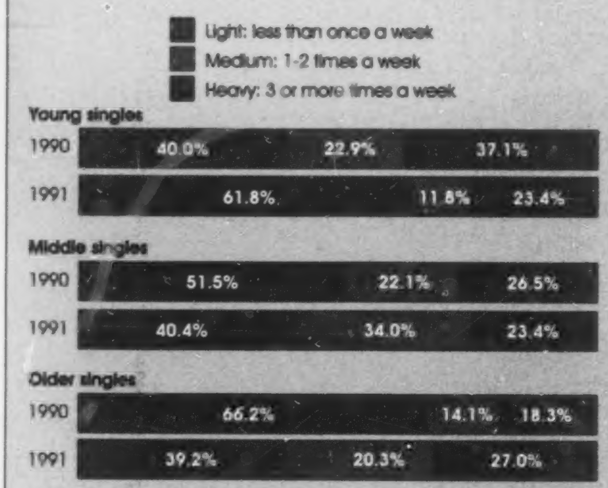
Product	Glass bottles	Plastic bottles	Aerosol cans	Paper boxes
Glass cleaners	14.7%	76.4%	4.8%	3.0%
Floor cleaners	13.0	78.1	2.0	4.9
Laundry detergents	2.6	36.5	—	59.7
Fabric softeners	4.2	57.2	—	35.2
Furniture polish	16.9	45.5	33.9	2.3
Shoe polish	18.4	65.7	6.2	5.5

Consumers overwhelmingly prefer plastic containers for most cleaners and other household products. An important exception is laundry detergents, where paper leads.

Source: 1991 PACKAGING Consumer Survey

OLDER SINGLES DISCOVER SINGLE-SERVE CONTAINERS

Use of food in single-serve containers



A dramatic turnaround in single-serve use; Use by older singles has jumped substantially while the trend for young singles is just the opposite.

Source: 1990-1991 PACKAGING Consumer Surveys

Consumers' dislikes often conflict with packaging features they want

older singles, a demographic group with a strong growth rate. Their use of microwaves, mired at 66%, shows the greatest potential for growth.

Fewer off-flavors

The work many suppliers and food packagers have done improving organoleptic factors appears to be paying off. The percentage of consumers who blamed packaging for off-flavors or aromas in food dropped to 16.4% in the latest survey, down from 19.6% last year and 21.5% in 1989.

The alleged culprits have not changed significantly: paperboard for frozen entrees and potato/rice/pasta items, many of them microwavable; plastics for processed meats; metal containers for juice products; paperboard or plastics for dairy items; paperboard, plastics or metal for vegetables.

Possible actions: Extensive testing of the relationship between packaging materials and product is obviously worthwhile. New technologies—in susceptors, cartons that minimize wicking and microwave trays, for example—can also help reduce unwanted flavors and odors.

Packages consumers hate

Asked to describe the package they dislike the most, consumers name packages they also claim to love.

For example, nearly 20% of respondents said they dislike plastic packaging; the figure jumps to nearly 30% if foam fast-food packaging is added. And yet, consumers prefer plastic packaging for microwave use, for vegetables, pasta, milk, bottled water and for nearly all household products.

More than 15% named packages that are difficult to open or make it difficult to remove the product as those they dislike most. And yet nearly all consumers demand tamper-evident and child-resistant features.

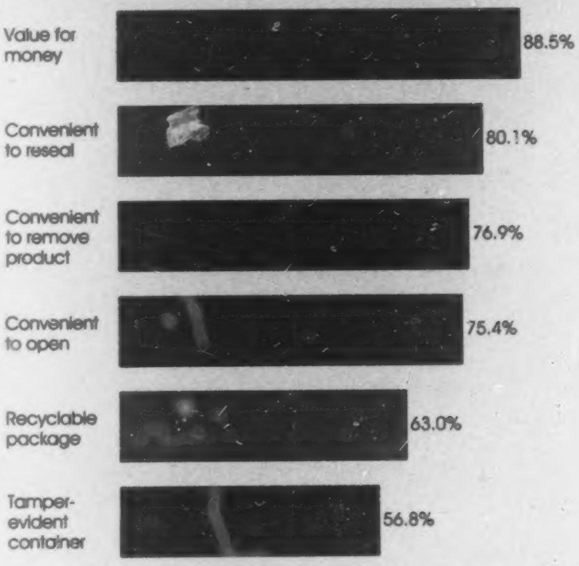
More than 14% pointed to overpackaged products as their main dislike. And yet most consumers continue to demand features that add packaging components.

Possible actions: In one sense, packages consumers dislike are the mirror image of what they want. The hard question is whether they are willing to give up other features they also demand.

The ambivalence revealed by consumers' likes and dislikes goes to the heart of the challenge packagers face in the 1990s. Consumers do not understand that some features they demand of packaging conflict. They just know they want them all. ■

VALUE COUNTS IN PERSONAL-CARE PRODUCTS

Percent saying package characteristic "extremely" or "very" important



In spite of the upscale image of many personal-care products such as shampoos and body lotions, consumers rank value as the most important package characteristic.

Source: 1991 PACKAGING Consumer Survey

PROFILE OF THE RECYCLING CONSUMER

Consumer groups more likely than average to recycle used packages and to consider recyclability when purchasing.

People who recycle more than average	People who buy recyclability more than average
Young couples	Older singles
All parents	Young and retired older couples
30-39 year olds	All parents
40-49 year olds	40-49 year olds
Those with incomes more than $35,000	60+ year olds
Those with some college or more	Those with incomes less than $20,000 or more than $35,000
Westerners	Those with some college or more
Residents of small towns and rural areas	Midwesterners
	Westerners
	Residents of small towns and rural areas
	Residents of metropolitan areas 500,000 to 1 million

Much has been made of the so-called "green" consumer. But as this profile demonstrates, those who actively recycle and most often consider recyclability when purchasing are very diverse. Young couples are the most likely to recycle, with 83.3% claiming to do so, compared with an average of 70%. Older singles most often consider recyclability when making purchases. Perhaps surprisingly, residents of small towns and rural areas are the most active recyclers and are most influenced by recyclability.

Source: 1991 PACKAGING Consumer Survey

PACKAGING's 1991 Consumer Survey probes consumer attitudes about packaging with 36 questions analyzed by 38 separate subgroups. A summary covering all questions and comparing key data with past surveys is available for $250. The complete report with more than 300 pages of data is available for $500. For information, contact Consumer Survey Editor, PACKAGING Magazine, Cahners Publishing Co., 1350 E. Touhy Ave, Des Plaines, IL 60018, or circle 500 on the Reader Service Card.

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ROBIN ASHTON

"Consumers now expect packaging to provide them with a host of convenience features and reduced environmental impact in addition to preservation and safety. They fail to see that such demands often conflict."

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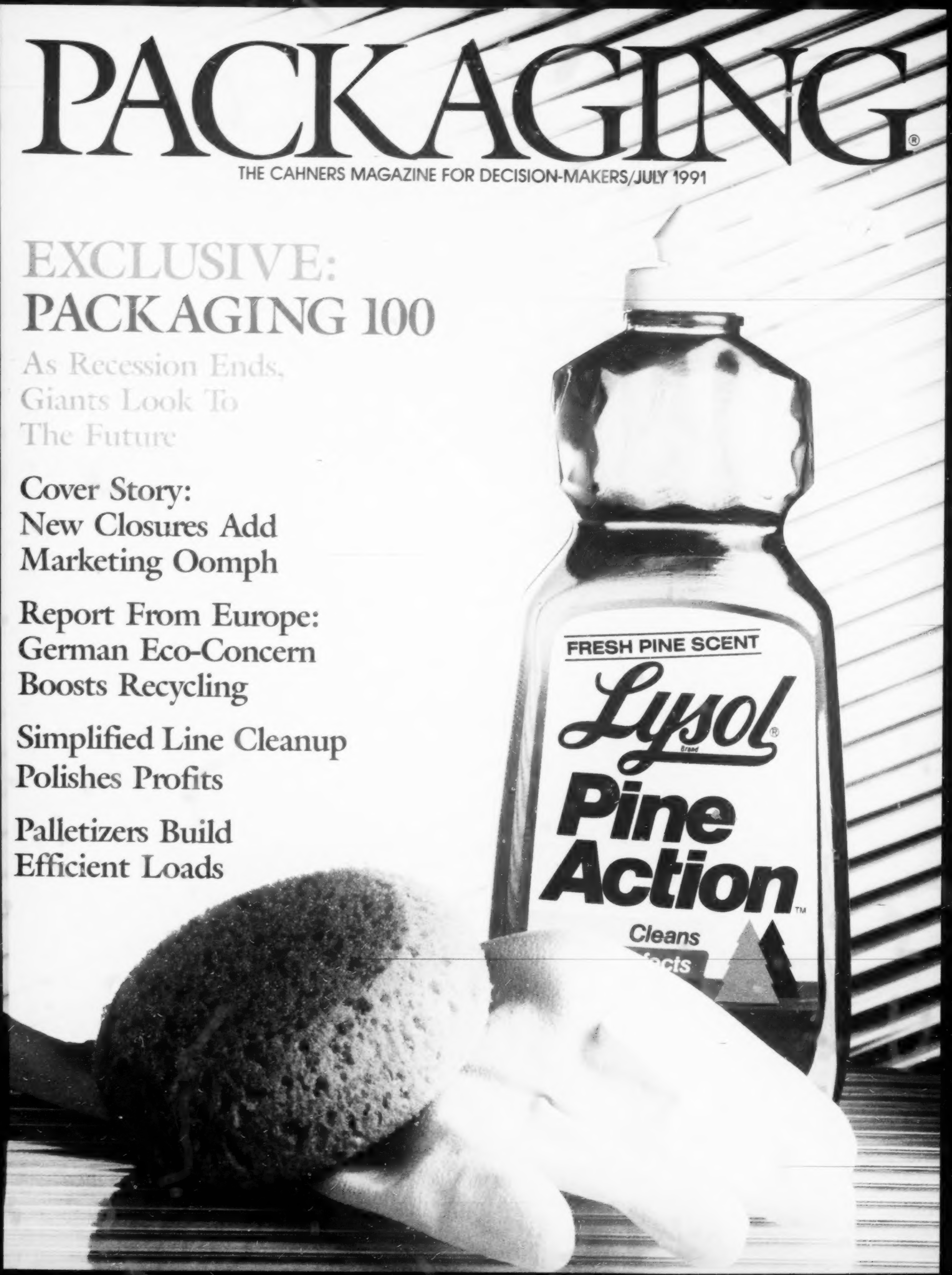
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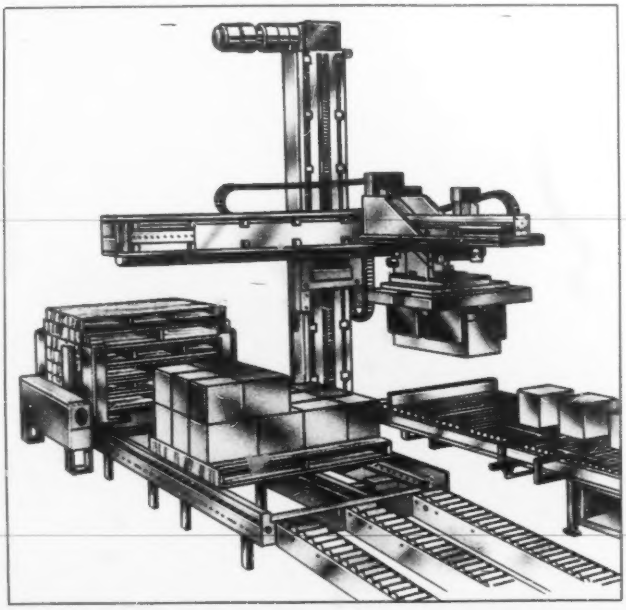

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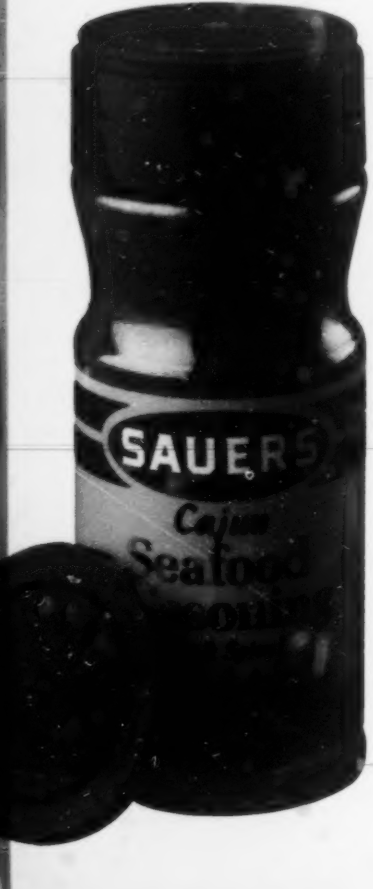
New shapes propel folding cartons
Function and style, as well as superb graphics, move paperboard cartons into the marketing forefront



Clear containers show off Cajun seasonings. Page **16**

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THE FIFTH ANNUAL PACKAGING 100

Expenditures total $29.3 billion. How does your company rank with the leaders?

By Mark Spaulding Senior Editor

Getting back to basics, a moderating of merger activity and environmental concern have all made their impact on the packaging industry in the past few years. These trends come to the fore in an analysis of the 1991 PACKAGING 100.

Our exclusive study of the 100 largest domestic consumers of packaging materials and containers shows these giants spending more than $29.3 billion in 1990. This amounts to about 40.5% of the total U.S. packaging industry's output for last year.

Though impressive, the total represents a slowdown in growth of expenditures by the PACKAGING 100 compared with that of the late 1980s. Between 1987 and 1988, the leading companies spent 24% more. In 1990, expenditures were up only 10.3% over 1989.

The condition of the overall economy is having its effect. Packagers are getting back to their roots, divesting unrelated businesses and acquiring companies in their traditional industries. Such is the case with Whitman Corp.'s divestiture of Pet Inc.

Are mega-mergers dead?

This trend is evident in the highly packaging-intensive field of foods and beverages. The year's largest deal was the $1.3 billion purchase of Beatrice Co. by ConAgra. While this a significant takeover, the era of $25-billion-dollar mergers appears over, having been replaced by quiet buyouts of smaller, kindred packagers. Overall, the number of food-industry mergers last year was about one-third below the 1986-1989 average.

Cosmetics and personal-care packagers are not immune to the merge-back-to-basics trend, either. The biggest example is Procter & Gamble with its Noxell and Revlon acquisitions. Smaller but also significant is Dial Corp.'s purchase of Breck hair-care products from American Cyanamid.

Source-reduction techniques are beginning to make an impression. A long-term shift to more bulk packaging for chemicals and other industrial products may reduce consumption for several of the PACKAGING 100. Despite stronger market positions, many industrial packagers saw little or no growth in their 1990 expenditures and predict the same this year.

The purchase of reduced and recycled packaging should have its greatest test among the chemical and allied-products packagers. Concentrated cleaners in smaller boxes and liquids in recycled-plastic jugs have a foothold and may dominate the market. What long-term cost effect these containers will have remains to be seen.

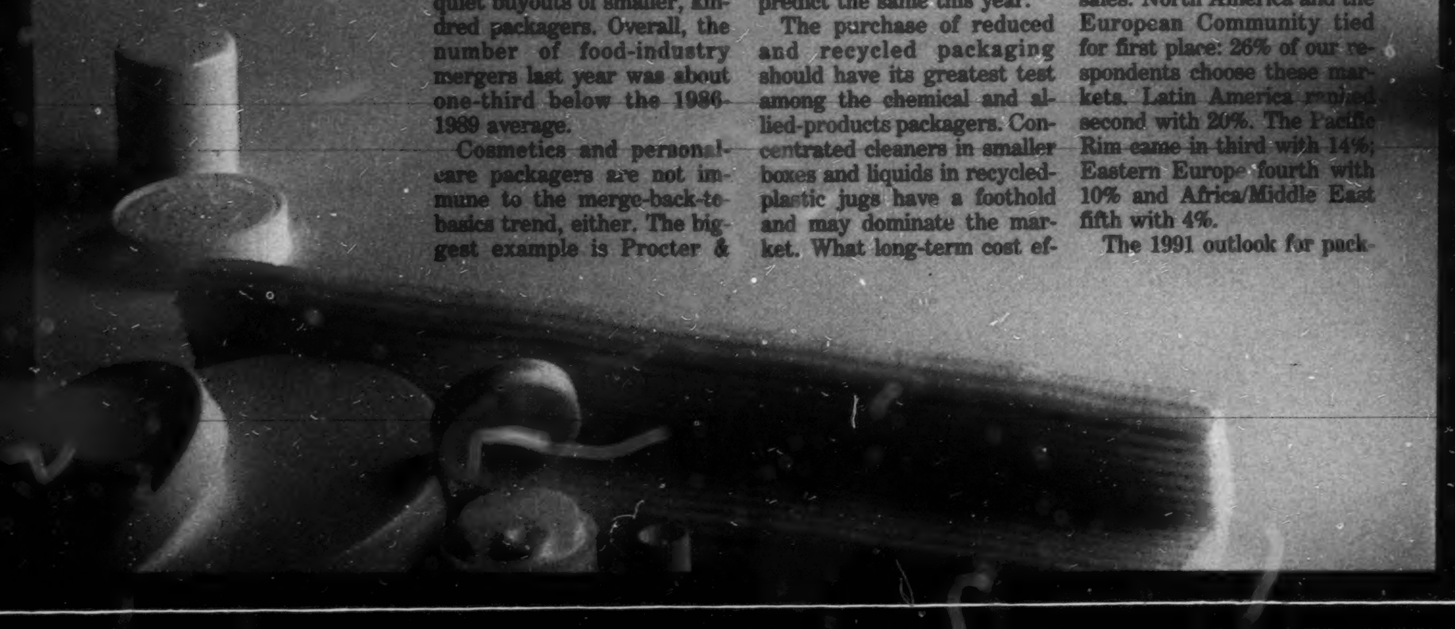
PACKAGING surveyed 250 companies to ascertain the amount spent on packaging materials for use during calendar-year 1990 to package all products sold in the U.S., including the value of self-manufactured containers. Everything from primary containers, labels and closures to folding cartons, corrugated cases and stretch film was considered.

Supplemental sources such as Cahners Economics statistics and mountains of corporate annual reports built up our database. When necessary, estimates were made by relating packaging costs to the value of product shipments. Fluctuations in material costs and other variables were also calculated.

Our survey this year asked the PACKAGING 100 several questions about their future.

We asked which geographic regions show the best potential for packaged-goods sales. North America and the European Community tied for first place: 26% of our respondents choose these markets. Latin America ranked second with 20%. The Pacific Rim came in third with 14%; Eastern Europe fourth with 10% and Africa/Middle East fifth with 4%.

The 1991 outlook for pack-



Top 100 bought 40% of total packaging industry's consumption in 1990

aging-related employment at these companies is mixed: 10% reported a good job market, 52% said fair and 38% said poor. One giant indicated that reorganization has meant a "lean and mean" staff for the foreseeable future. Another saw high demand for but low availability of employees with the kind of experience he said he needed.

Asked to rank their company on use of packaging technology, about half saw themselves as somewhat innovative. Only 5% said they were extremely innovative. Among the factors called obstacles to innovation were short-sighted upper management and environmental and regulatory restrictions.

Competitiveness of the American packaging field compared with that of the rest of the world was seen in a better light. Almost 68% of respondents said they thought the U.S. was extremely or very competitive. About 11% said American packaging was "not at all" competitive. One packager said he saw domestic prices and quality holding their own but found innovative design in the U.S. had "fallen well behind Europe and Japan."

More than $66.1 million in packaging-related capital expenditures were reported. When asked what constituted an acceptable payback period for investment in packaging equipment, 63% said more than one year while 37% said nine to 12 months.

Finally, we asked packagers to weigh the importance of five factors when buying packaging materials. The results show extreme preference for high quality: 75% said this was the most important factor in their decision-making. Low price and a good supplier reputation tied for second; knowledgeable service ranked third.

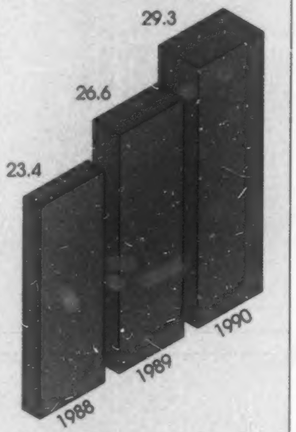
The 1991 PACKAGING *100 are listed on the next two pages. New data include percentage changes compared to 1989 expenditures and SIC industry codes. For an explanation of the codes, see the table, left.* ■

MARK SPAULDING
"In the process of researching our annual Giants survey, I analyzed a literally 5-foot-high stack of annual reports for this article. My favorite this year has to be PepsiCo. Throughout the book is Reid Asato, a sumo wrestler who illustrates Pepsi's story of 'big brand' power."

PLEASE RATE THIS ARTICLE
How would you rate this article? To reply, circle the appropriate number on the reader service card:

Outstanding	361
Above Average	362
Average	363
Below Average	364

TOTAL CONSUMPTION BY PACKAGING 100
($ billions)



Expenditures climb to nearly $30 billion for the 100 largest consumers of materials and containers.

SIC INDUSTRY CODES:

20	Food/Kindred Products
21	Tobacco
22	Textile Mill Products
23	Apparel
24	Lumber/Wood Products
25	Furniture and Fixtures
26	Paper/Allied Products
28	Chemical Products
29	Petroleum
30	Rubber/Misc. Products
31	Leather
32	Stone, Clay, Glass
33	Primary Metal Industries
34	Fabricated Metals
35	Industrial Machinery
36	Electrical & Electronics
37	Transportation
38	Instruments
39	Miscellaneous

MERGERS SHIFT BALANCE OF POWER AMONG FOOD GIANTS

1. Philip Morris: With expenditures of $1.5 billion, PM leads the pack. Kraft General Foods volume up 6.5%. KGF to launch 300 new products this year. Expect 7% overall packaging growth.

2. ConAgra: Moves to No. 2 after swallowing Beatrice, Hunt-Wesson and Swift-Eckrich in last fall's takeover. Expenditures up almost 82%. Should go higher with further acquisitions on tap.

3. Nestle USA: Consolidates Carnation unit. Mergers Curtiss Brands bought from RJR Nabisco. Reorganizes 15 business units into six. Sells Beech Nut baby foods. Packaging costs decline 0.5%.

4. RJR Nabisco: Consumption nears $500 million. Nabisco Brands, Planters Lifesavers sales up only 1%. New bakery products to restore volume lost through recent divestitures.

5. Unilever US: Food business grouped into one division. Expenditures top $400 million. Strong volume growth for margarines, edible oils and cheeses. Frozen food and ice cream sales stall.

CONSUMER THIRSTS PUSH BEVERAGE SPENDING HIGHER

1. Anheuser-Busch: On top again with about $2 billion in consumption. Long-term outlook for greater package self-manufacturing capacity. Share of total brewing industry grows to 43.7%.

2. PepsiCo: Brands account for 33% of U.S. soft-drink consumption. Double-digit volume growth for Diet Pepsi. Acquisition of four bottlers will build on last year's $1.32 billion in expenditures.

3. Coca-Cola Co.: Domestic market share hits 41%. Launches caffeine-free Coke Classic. To emphasize spouted carton, large pack sizes for Minute Maid to achieve market leadership.

4. Coca-Cola Enterprises: Replaces all corrugated for 2-liter bottles with reusable plastic trays. Tests just-in-time production. Sells Mid-America Bottling but buys four other regional bottlers.

5. The Seagram Co.: Tropicana launches new product or major package change every 90 days. Dominates wine coolers with 42% share. Will expand markets for Seagram Mixers.

CHEMICAL PACKAGERS TRY OUT RECYCLED, REDUCED CONTAINERS

1. Procter & Gamble: What else is new? Consumption of $720 million to grow with cosmetic acquisitions, despite material reductions with recycled jugs, concentrated detergents.

2. Eastman Kodak Co.: Sterling Drug sells several No. 1 products to hospitals. Chemical div. posts 2% sales gain. Lehn & Fink Products launches new packaging for Lysol cleaners.

3. Unilever US: Faberge Power Stick widens personal-care line. Wisk Power Scoop moves into more regional markets; spending to grow with new facilities for concentrated powders.

4. American Home Products: Expects 4.5% material-cost increase for 1991. Whitehall, A.H. Robins merge packaging, distribution systems. Divests Boyle-Midway household-products business.

5. S.C. Johnson & Son: Replaces PVC bottles for Future polish with recycled-PET. New product successes include Fisher-Price kids' shampoos and Glade Plug-Ins electric air fresheners.

THE PACKAGING 100

1991 Rank	Rank last year	Company & Headquarters	Packaging Expenditures ($ Millions)	% Change from last year	Industry by SIC
1	1	**Philip Morris Cos., Inc.**, New York, NY	$2,605.00	1.42%	20 21
2	2	**Anheuser-Busch Companies, Inc.**, St. Louis, MO	2,435.00	5.87	20
3	3	**PepsiCo, Inc.**, Purchase, NY	1,577.00	7.95	20
4	4	**Procter & Gamble Co.**, Cincinnati, OH	1,557.00	12.38	20 26 28
5	5	**Coca-Cola Co.**, Atlanta, GA	1,258.00	8.29	20
6	6	**Coca-Cola Enterprises, Inc.**, Atlanta, GA	1,128.00	3.78	20
7	7	**RJR Nabisco, Inc.**, New York, NY	987.00	8.60	20 21
8	8	**Seagram Co. Ltd.**, Montreal, Quebec	731.00	2.54	20
9	19	**ConAgra, Inc.**, Omaha, NE	635.00	81.43	20
10	10	**Unilever US Inc.**, New York, NY	630.00	21.20	20 28
11	9	**Sara Lee Corp.**, Chicago, IL	585.00	1.74	20 22 23 28
12	14	**Nestle USA, Inc.**, Glendale, CA	565.00	8.11	20 28
13	11	**Adolph Coors Co.**, Golden, CO	531.30	8.50	20 32 33 34
14	17	**Eastman Kodak**, Rochester, NY	424.00	11.58	28 29 35 36 38
15	13	**Brown-Forman Inc.**, Louisville, KY	421.00	1.32	20 31 32 39
16	16	**Campbell Soup Co.**, Camden, NJ	408.00	7.09	20
17	15	**Borden**, New York, NY	402.00	.50	20 28
18	18	**Stroh Brewing Co.**, Detroit, MI	395.00	8.52	20
19	23	**American Home Products Corp.**, New York, NY	380.00	19.12	20 28 38
20	24	**General Mills**, Minneapolis, MN	356.00	13.02	20
21	26	**Grand Metropolitan plc**, Minneapolis, MN	331.00	11.99	20
22	28	**Cadbury Schweppes Inc.**, Stamford, CT	323.00	15.36	20
23	27	**Clorox Co.**, Oakland, CA	322.00	9.15	20 28 34
24	22	**G. Heileman Brewing Co.**, La Crosse, WI	300.00	−7.69	20
25	—	**Del Monte USA**, San Francisco, CA	294.00	5.00	20
26	29	**Revlon Group Inc.**, New York, NY	280.00	5.09	28
27	12	**Whitman Corporation**, Chicago, IL	278.00	−35.14	20 34 36 37
28	30	**H.J. Heinz Co.**, Pittsburgh, PA	261.00	8.75	20
29	32	**Ocean Spray Cranberries**, Plymouth, MA	248.00	7.54	20
30	31	**Quaker Oats Co.**, Chicago, IL	239.00	.12	20 39
31	33	**S.C. Johnson & Son**, Racine, WI	226.00	4.63	28
32	34	**Kellogg Co.**, Battle Creek, MI	222.00	5.21	20
33	34	**Johnson & Johnson**, New Brunswick, NJ	212.00	10.99	[illegible]6 28 30 38
34	36	**Dean Foods Co.**, Franklin Park, IL	195.00	8.33	20
35	35	**Du Pont de Nemours & Co.**, Wilmington, DE	194.90	5.35	22 28 29 30 38
36	—	**Sherwin-Williams**, Cleveland, OH	189.00	7.39	28
37	—	**Allied-Signal Inc.**, Morristown, NJ	188.00	.65	30 34 35 36 37
38	46	**Colgate-Palmolive Co.**, New York, NY	187.00	3.89	20 28 32
39	43	**Hershey Foods Corp.**, Hershey, PA	180.50	12.13	20
40	37	**Dow Chemical USA**, Midland, MI	180.00	0.00	28 29 30
41	42	**Warner-Lambert Co.**, Morris Plains, NJ	178.50	10.49	20 28
42	38	**Geo. A. Hormel & Co.**, Austin, MN	175.17	5.38	20
43	41	**Bristol-Myers Squibb**, New York, NY	175.00	8.21	20 28 36 38
44	54	**Tyson Foods Inc.**, Springdale, AR	173.91	44.32	20
45	39	**American Cyanamid**, Wayne, NJ	172.50	5.76	20 28 38
46	40	**CPC International**, Englewood Cliffs, NJ	169.50	5.94	20
47	45	**Ralston-Purina Co.**, St. Louis, MO	163.00	5.54	20 36
48	50	**Dr. Pepper/Seven-Up Co.**, Dallas, TX	161.00	21.35	20
49	47	**Castle & Cooke Inc.**, Los Angeles, CA	160.00	10.13	20
50	20	**Avon Products Inc.**, New York, NY	150.00	−55.64	28

See page 28 for industry code definitions.

THE PACKAGING 100

1991 Rank	Rank last year	Company & Headquarters	Packaging Expenditures ($ Millions)	% Change from last year	Industry by SIC
51	44	**General Motors Corp.,** Detroit, MI	$149.00	−6.88%	37
52	49	**Dial Corp.,** Phoenix, AZ	142.00	3.65	20 28
53	—	**Pet, Inc.** , St. Louis, MO	136.00	4.82	20
54	51	**Mars, Inc.,** Hackettstown, NJ	135.00	3.85	20
55	55	**Iowa Beef Processors, Inc.,** Dakota City, NE	134.50	11.90	20
56	52	**Keebler Co.,** Elmhurst, IL	134.00	3.13	20
57	53	**3M Co.,** St. Paul, MN	133.00	2.69	26 28 38
58	59	**Exxon Corp.,** Irving, TX	121.00	13.58	28 29
59	58	**International Business Machines,** Armonk, NY	120.50	6.02	35
60	56	**Ford Motor Co.,** Dearborn, MI	120.00	.10	37
61	—	**Bayer USA Inc.,** Pittsburgh, PA	109.50	5.29	20 28 30 38
62	60	**American Brands, Inc.,** Old Greenwich, CT	108.00	3.35	20 21 34 39
63	—	**McCormick & [illegible] Inc.,** Hunt Valley, MD	100.00	5.26	20 30
64	64	**Schering-Plough Corp.,** Madison, NJ	93.00	8.14	28
65	62	**PPG Industries Inc.,** Pittsburgh, PA	92.00	.55	28 32
66	—	**Chevron Corp.,** San Francisco, CA	91.00	14.65	28 29
67	65	**Mobil Corp.,** Fairfax, VA	90.50	10.37	28 29
68	63	**General Electric Co.,** Fairfield, CT	90.00	0.00	34 35 36 37
69	—	**Motorola, Inc.,** Schaumburg, IL	88.00	8.64	35 36 37
70	—	**Gold Kist, Inc.,** Atlanta, GA	86.50	−1.84	20 28
71	68	**Chiquita Brands International,** Cincinnati, OH	85.50	7.72	20
72	61	**Pfizer, Inc.,** New York, NY	85.00	1.19	28
73	—	**Cosmair,** New York, NY	84.00	5.33	28
74	66	**Tenneco Inc.,** Houston, TX	83.00	2.09	28 37
75	69	**Sunkist Growers, Inc.,** Sherman Oaks, CA	82.00	10.07	20
76	—	**Bausch & Lomb,** Rochester, NY	76.50	9.41	28 38
77	74	**Morton International,** Chicago, IL	76.00	17.83	20 28 30 37
78	—	**Reckitt & Colman plc,** London, England	75.50	16.15	20 28
79	67	**Texaco, Inc.,** White Plains, NY	75.00	−6.37	28 29
80	82	**The Black & Decker Corp.,** Towson, MD	73.00	35.19	30 34 35 36
81	77	**Merck & Co.,** Rahway, NJ	70.50	15.57	28 38
82	70	**Land O'Lakes, Inc.,** Arden Hills, MN	70.00	0.00	20 28
83	73	**Gerber Products Co.,** Fremont, MI	69.50	6.92	20 22 23 31 39
84	72	**Monsanto Co.,** St. Louis, MO	69.00	1.47	20 28 29 30 36
85	75	**Baxter Healthcare Corp.,** Deerfield, IL	68.00	10.46	22 28 38
86	79	**Shell Oil Co.,** Houston, TX	62.00	3.33	28 29
87	76	**Chrysler Corp.,** Highland Park, MI	61.50	−.10	37
88	78	**Universal Foods Corp.,** Milwaukee, WI	60.50	.33	20
89	80	**SmithKline Beecham plc,** Philadelphia, PA	60.00	10.29	28
90	83	**Alberto-Culver Co.,** Melrose Park, IL	58.50	10.84	20 28
91	84	**Amoco Corp.,** Chicago, IL	58.00	16.00	29
92	89	**Olin Corp.,** Stamford, CT	55.00	16.12	28 33 34 37 39
93	81	**The Stanley Works,** New Britain, CT	54.50	.46	30 32 34 35 36
94	88	**Wm. Wrigley Jr. Co.,** Chicago, IL	52.00	7.18	20
95	—	**Levi Strauss & Co.,** San Francisco, CA	51.00	4.19	22 23
96	86	**Whirlpool Corp.,** Benton Harbor, MI	50.25	1.01	36
97	85	**Riceland Foods, Inc.,** Stuttgart, AK	50.00	0.00	20
98	91	**Abbott Laboratories,** Abbott Park, IL	49.93	13.84	20 28 38
99	93	**Corning Inc.,** Corning, NY	47.80	20.09	32 37 38
100	90	**Interstate Brands Corp.,** Kansas City, MO	46.50	2.61	20

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Cosmetics Face Up To Source Reduction

Liquid Filling Goes Flexible

Function And Style Shape Cartons

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PACKAGING

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VOLUME 36 NUMBER 9

CONSUMER PACKAGING SURVEY
Disneyland

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GROWING HEALTHY

Zappable mini-trays hold just enough food for tiny appetites. Page **15**

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Explore all your options up front to assure the highest effiency down the line

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COSMETICS MARKETERS FIND LESS IS MORE

In marketing makeover, category leaders bet big on down-to-earth packages for simpler products

Melissa Larson
Senior Editor

Throughout the 1980s, the cosmetics industry successfully used glamorous custom packaging to lend cachet to its products. From counters at the most exclusive department stores to self-service racks at the supermarket, makeup packages were flashy and extravagant—and women loved them.

Now, leading marketers such as Estée Lauder and Revlon are scaling back and simplifying their packaging—especially as they introduce new, more-natural makeup lines. In doing so, they're saving money and appealing to a whole new generation of makeup consumers.

Shampoo refills

Today's shoppers have sent a clear message about cosmetics packaging. Nearly 80% of respondents to PACKAGING's exclusive 1991 Consumer Survey said they felt that some products were overpackaged; of those, 50% said cosmetics used too much packaging.

They want less packaging to pay for and throw away, and cosmetics and toiletries marketers are, more or less happily, obliging them. Hair salons are offering to refill customers' empty bottles of shampoo and conditioner at substantial savings; supermarket toiletries are doffing their outer cartons (see box).

The trend in mass-market cosmetics is toward natural ingredients and away from fragrances, animal testing and lots of packaging.

Even the glitziest department-store makeup lines are headed for a facelift. Packagers of skin-care, hair-care and cosmetics brands appear to be taking a fresh look at their packaging.

They have to. The cosmetics industry is in the doldrums, according to marketing consultant Suzanne Grayson. "Only half of all women over 18 wear foundation makeup," she says. "The industry has done a terrible job of introducing new customers to cosmetics, and the pie just keeps getting smaller."

Now marketers see a way to trim their costs and at the same time appeal to a growing consumer trend.

Pulling this off, however, means more than just eliminating certain package components. It requires significant attention to details—and

Please return tube to Origins for recycling.
Please return bottle to Origins for recycling.
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more than a little design imagination.

Return those empties

Estée Lauder's just-introduced Origins Natural Resources skin-care and makeup line has made news. Not only are the products non-animal-tested and formulated with an emphasis on natural ingredients, but the packaging is remarkable. Spare, rounded containers and closures are displayed cartonless in most cases.

When a folding carton is used, it's made of recycled paper and says so. Glass bottles are wrapped in plain brown corrugated by the clerk at purchase. Completing the natural feel of the line is the logotype and tree symbol used on each package.

But most interesting is Lauder's policy of encouraging customers to return empty Origins containers to the place of purchase. While the containers can't be refilled at the counter, they are recycled by the company. And customers are welcome to purchase another filled container while they're there.

The idea didn't originate with Origins. Retailer The Body Shop implemented container returns for its line of makeup and skin-care products a few years ago, and reports its own worldwide rate of returns to be about 10%. However, Origins appears to be the first attempt by a major old-guard cosmetic company to encourage direct container returns.

And Lauder isn't stopping there: the company has already opened one free-standing Origins boutique in Boston. If this line is highly successful, Lauder may break out of the department-store pack and compete directly with cosmetics specialty stores like The Body Shop.

Across the department-

Lauder goes natural with new Origins Natural Resources. Spare packaging, recycled paperboard cartons, and reminders to return the empty containers to the Origins counter are garnering publicity for this skin-care and makeup line.

The million-dollar makeup question: Will women return the empties?

store aisle from Origins, Charles of the Ritz has introduced Ritz Express, a makeup and treatment line that features less packaging, fewer products—and lower prices.

According to Grayson, it's easier to introduce a whole new line featuring less packaging than it is to suddenly remove packaging that the loyal customer is used to.

"The cosmetics consumer, depending on her socio-economic level, sees the package as part of the product she's paying for," says Grayson.

Still, the savings are a powerful lure. Some cosmetics marketers pay up to 10 cents apiece for top-quality cartons. If, for example, the cost of goods on a $15 item is $9.40, reducing the packaging cost by 10 cents on every item subtracts more than 1% from that cost of goods. For a high-volume line, that saves big money.

To card or not to card?

Selling cosmetics in the supermarket and chain drug environment is even more complicated, because the marketer often has little control over how the merchandise is displayed.

Each supermarket or drug chain has its own way of displaying cosmetics: some require all items to be carded and racked to reduce pilferage; others have their own displays for uncarded items; still others install the marketer's own displays.

This lack of uniformity bothers cosmetic marketers because it requires them to inventory every item in both carded and uncarded form. Getting rid of the card in the name of saving money or source reduction would mean saying goodbye to some major chain customers.

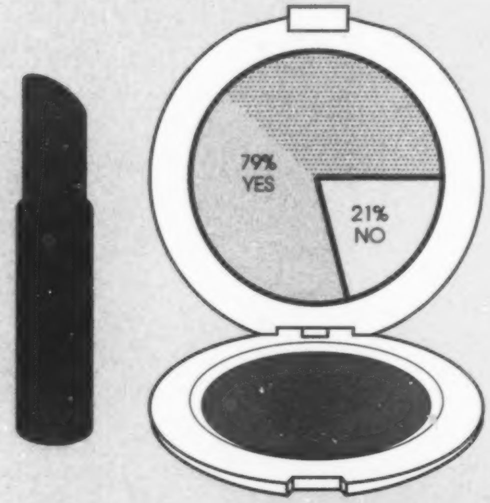
After all is said and done, selling cosmetics is still about image and lifestyle. Those cosmetics retailers who best anticipate shoppers' desire for value, convenience and performance will prosper. ■

PRETTY, BUT OVERPACKAGED

Question: Do you think some products use too much packaging? If so, which products?

☐ Yes, some products are overpackaged

▨ Cosmetics are overpackaged (50% of those answering Yes to first question)



Nearly 80% of respondents to PACKAGING's Consumer Survey stated that they feel some products use too much packaging. When asked to indicate whether household appliances, cosmetics, food and pharmaceuticals were overpackaged, 50% of themmade cosmetics one of their choices.

Source: 1991 PACKAGING Consumer Survey

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MELISSA LARSON
"Cosmetics marketers are closely watching the introduction of Origins. They want to know if environmental consumerism is here to stay—or just a fad. The success or failure of this new line will help many of them decide whether or not to jump on the source-reduction bandwagon."

TOILETRIES GO CARTONLESS FOR THE '90s

Shoppers who spot Procter & Gamble field employees removing Secret and Sure brand deodorant containers from their outer cartons may be among the first to witness a revolution. The deodorant containers' shadowbox is history—as passé as junk bonds and colored pasta.

Slowly but surely, deodorants are going cartonless. Toiletries giant P&G is in the vanguard as usual, but within months a wholesale conversion will be well underway. And deodorants aren't the only products to shed their cartons. Jhirmack (Playtex) and L'Oreal (Cosmair) hair-care brands are trying the no-carton look for some products, and other hair-care products in tubes and pump containers will probably follow suit in the months ahead.

Secret ROLL-ON
SURE
SURE
Secret
Secret

Although environmental appeal to consumers is a prime consideration behind the change, stripping excess packaging where possible also saves packagers and retailers money.

Lower handling costs that result from reducing outer packaging can sharply cut direct product costs—up to 20% according to P&G's figures for Secret and Sure. That makes retailers happy, as does increased facings. Cartonless containers simply take up less space on the shelf.

The conversion isn't effortless. P&G spent years perfecting a deodorant container that could stand on its own without the paperboard prop. Durability throughout the distribution chain—especially for plastic containers—can be a problem. Also, the packager has less space for instructions and selling language.

The best reward for marketers' efforts in this area, however, is increased sales. P&G says sales volume of the cartonless stock increased 4% during control-store testing—without benefit of advertising or point-of-purchase material to flag the change. That bodes well for the future of these and other toiletries products that have kicked the carton habit.

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